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Union College Bulletin

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Attention is called to the fact that all students are to be governed by the rules, regulations and provisions contained in this announcement subject to the right of the trustees and faculty to repeal, change, amend or add to them or any of them.

ANNUAL CATALOGUE
OF
UNION UNIVERSITY



1922-1923

PRESS OF
FRANK H EVORY & Co
ALBANY N Y

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UNION UNIVERSITY

Union University embraces the following institutions:
UNION COLLEGE, Founded 1795

Academic Department	{ Classical Courses Latin Scientific Course Scientific Courses
Technical Department (Established 1845)	{ Civil Engineering Course Electrical Engineering Course Pre-medical Course Chemistry Course Physics Course

ALBANY MEDICAL COLLEGE, Founded 1838

ALBANY LAW SCHOOL, Founded 1851

DUDLEY OBSERVATORY, Founded 1852

ALBANY COLLEGE OF PHARMACY, Founded 1881

Union College acquired by its charter, granted in 1795, full university powers, but the creation of graduate institutions at Schenectady was not then found practicable. Schools of law and medicine and also an astronomical observatory have long existed at Albany, only a few miles distant. The arrangement naturally suggested by these circumstances was, that the professional schools and the observatory at Albany should be united with Union College, under the charter and board of trustees of the latter. This was accordingly effected by the incorporation of Union University in 1873. The Albany College of Pharmacy was created by the board of governors on June 21, 1881, and incorporated as a department of the university on August 21 of the same year.

The president of Union College and permanent chancellor of Union University has the oversight of the university, the several institutions having their resident deans. The university board of governors is composed of permanent trustees of Union College and of representatives of each of the other institutions embraced in Union University.

1922 — UNIVERSITY CALENDAR — 1923

1922

First Semester Law School begins.....Tuesday, September 19
 First semester Union College begins.....Monday, September 18
 Pharmaceutical Chemist course begins....Monday, September 18
 First Semester Medical College begins...Monday, September 25
 First semester College of Pharmacy begins Monday, September 25
 Thanksgiving day — recess.....Thursday, November 23
 First semester College of Pharmacy ends.Saturday, December 23
 Christmas recess in all departments.....Saturday, December 23

1923

Sessions resumed Wednesday, January 3
 Second semester College of Pharmacy begins Monday, January 8
 Day of prayer for colleges.....Thursday, January 18
 First semester Law School ends.....Thursday, January 25
 First semester Medical College ends.....Saturday, January 27
 Second semester Law School begins.....Monday, January 29
 First semester Union College ends.....Saturday, February 2
 Second semester Medical College begins...Monday, February 5
 Second semester Union College begins...Thursday, February 7
 Washington's birthday — recess.....Thursday, February 22
 Easter recess Friday-Wednesday, Mar. 30-Apr. 4
 Commencement, College of Pharmacy.....Thursday, May 3
 Memorial day — recess Wednesday, May 30
 Commencement, Law School Wednesday, June 6
 Commencement week, Union College,
 Thursday-Monday, June 7-11
 Commencement, Medical College.....Monday, June 11
 Commencement, Pharmaceutical Chemists.....Monday, June 11
 Entrance examinations, Union College,
 Tuesday-Wednesday, June 12-13
 First semester Union College begins.....Monday, September 17
 First semester Medical College begins....Monday, September 14
 First semester Law School begins.....Tuesday, September 18
 First semester College of Pharmacy begins Monday, September 24
 Thanksgiving day — recess Thursday, November 29
 Christmas recess in all departments.....Monday, December 24

For calendars of departments, see pages 21, 22, 155, 178, 181.

OFFICERS OF THE UNIVERSITY

Chancellor

CHARLES ALEXANDER RICHMOND, D. D., LL. D.

Honorary Chancellor, 1922

REAR ADMIRAL WILLIAM SOWDEN SIMS, U. S. N.

Board of Governors

President, EDMUND N. HUYCK, Albany

Vice President, AMASA J. PARKER, LL. D., Albany

Secretary, J. NEWTON FIERO, LL. D., Albany

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GEORGE ALEXANDER, D. D.....	New York City
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EDWIN W. RICE, JR., PH. D., SC. D.....	Schenectady
EDWARD P. WHITE, A. M.....	Buffalo
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FRANKLIN H. GIDDINGS, LL. D.....	New York City
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FRANK BAILEY, Art D.....	Brooklyn
WILLIS T. HANSON.....	Schenectady
CHARLES B. McMURRAY, M. A.....	Troy

Albany Medical College

EDMUND N. HUYCK.....	Albany
AMASA J. PARKER, LL. D.....	Albany

Albany Law School

WILLIAM PLATT RUDD.....	Albany
J. NEWTON FIERO, LL. D.....	Albany

Dudley Observatory

WILLIAM H. SAGE.....	Albany
BENJAMIN WALWORTH ARNOLD.....	Albany

Albany College of Pharmacy

*WILLIS G. TUCKER, M. D., PH. D.....	Albany
CHARLES GIBSON.....	Albany

* Deceased.

UNIVERSITY FACULTY

CHARLES ALEXANDER RICHMOND, D. D., LL. D.
Chancellor

BENJAMIN H. RIPTON, PH. D., LL. D.
Dean Emeritus of Union College and Professor Emeritus of
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CHARLES F. F. GARIS, M. S.
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Dean of the Law School and Lecturer on the Law of Equity,
Evidence, Development of the Law, Constitutional Law,
Trusts, Trustees, and Legal Ethics

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Dean of the College of Pharmacy and Professor of Pharma-
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BENJAMIN BOSS, A. B.
Director of the Dudley Observatory

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Secretary of Union College and Professor of Modern Languages

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Professor Emeritus of Obstetrics and Diseases of Children

CYRUS S. MERRILL, M. D.
Professor Emeritus of Ophthalmology and Otology

FRANK S. HOFFMAN, A. M., PH. D., LL. D.
Ichabod Spencer Professor Emeritus of Philosophy

OLIN H. LANDRETH, A. M., C. E., Sc. D.
Professor Emeritus of Civil Engineering

JAMES H. STOLLER, A. M., PH. D.
Professor of Geology

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Professor of the English Language and Literature

CHARLES P. STEINMETZ, A. M., PH. D.
Professor of Electro-Physics

HOWARD OPDYKE, A. B.
Professor of Theoretical Mechanics

FRANK WHITE, M. A.
Professor of the Law of Corporations

HON. GEORGE LAWYER
Professor of the Law of Civil Practice Act, Contracts, Personal
Property and Sales, Damages, and Bankruptcy

HON. FRANK B. GILBERT
Professor of the Law of Real Property and Statutes and Statu-
tory Construction

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Instructor in Medicine

WALTER K. GRIGG, B. S.
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HENRY HUN, M. D.
Instructor in Surgery

ARTHUR SAUTTER
Instructor in Venereal Diseases

JOSEPH O. KIERNAN, M. D.
Instructor in Obstetrics

WALTER K. VAN ALSTYNE, A. B., M. D.
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CHARLES H. HARBINSEN
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HELEN R. HOSMER, B. S.
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LOUISE N. BATT, A. B.
Instructor in Bacteriology

LEROY JENKINS, A. B.
Astronomer in Dudley Observatory

SEBASTIAN ALBRECHT, PH. D.
Astronomer in Dudley Observatory

SHERWOOD B. GRANT, C. E.
Astronomer in Dudley Observatory

RALPH E. WILSON, PH. D.
Astronomer in Dudley Observatory

Lecturers

KIRSOPP LAKE, M. A., D. D.
(*Winn Professor of Ecclesiastical History at Harvard University*)
Ichabod Spencer Lecturer on Psychology

IRVING LANGMUIR, PH. D.
Lecturer in Theoretical Chemistry

ALBERT W. HULL, PH. D.
Lecturer in Crystallography and X-Rays

WHEELER P. DAVEY, PH. D.
Lecturer in Crystallography and X-Rays

SAUL DUSHMAN, PH. D.
Lecturer on the Atomic Structure

JOHN B. TAYLOR, B. S.
Lecturer on Acoustics

UNION COLLEGE

Union College was incorporated by the Regents of the University of the State of New York on the 25th day of February, 1795. It was the second college incorporated in the state, and the first north of the city of New York and west of the Hudson river. It received its name from the circumstance that several religious denominations co-operated in its organization, and it was the first college in the United States which was not of a strictly denominational character. It has continued from its foundation to be a representative institution of Christian unity.

The first president of Union College was the Rev. John Blair Smith, of Philadelphia. He was elected in 1795, and resigned in 1799, only a few months before his death. He was succeeded by Jonathan Edwards, the younger, who died in 1801. The Rev. Jonathan Maxcy, previously president of Brown University, succeeded Dr. Edwards, resigning at the end of two years. In 1804 the Rev. Eliphalet Nott was elected president of Union College, which office he held until his death, on the 29th day of January, 1866. The Rev. Laurens P. Hickok, a graduate of the college, who had long acted as vice-president, was elected his successor. He resigned in 1868. The Rev. Charles A. Aiken succeeded Dr. Hickok in 1869, and resigned in 1871. The Rev. Eliphalet Nott Potter was elected president in 1871, and was inaugurated June 20, 1872. On his resignation, in 1884, the Hon. Judson S. Landon was appointed president *ad interim*, and served until the inauguration of Harrison E. Webster, who was elected president May 23, 1888, and inaugurated June 26, 1888. On his resignation, in January, 1894, Rev. Andrew V. V. Raymond was elected president, and was inaugurated in June, 1894. Dr. Raymond resigned July 18, 1907, and the Rev. George Alexander was appointed president *ad interim*. On January 28, 1909, Rev. Charles Alexander Richmond was elected president. Dr. Richmond was inaugurated June 7, 1909.

1922

	S	M	T	W	T	F	S		S	M	T	W	T	F	S
Sept.	..	..	..	..	..	1	2	Nov.	..	..	..	1	2	3	4
	3	4	5	6	7	8	9		5	6	7	8	9	10	11
	10	11	12	13	14	15	16		12	13	14	15	16	17	18
	17	18	19	20	21	22	23		19	20	21	22	23	24	25
Oct.	..	..	..	..	..	..	..	Dec.	..	..	..	..	..	..	..
	1	2	3	4	5	6	7		3	4	5	6	7	8	9
	8	9	10	11	12	13	14		10	11	12	13	14	15	16
	15	16	17	18	19	20	21		17	18	19	20	21	22	23
	22	23	24	25	26	27	28		24	25	26	27	28	29	30
	29	30	31	..	..	..	..		31	..	..	..	..	..	..

1923

	S	M	T	W	T	F	S		S	M	T	W	T	F	S
Jan.	..	1	2	3	4	5	6	July	1	2	3	4	5	6	7
	7	8	9	10	11	12	13		8	9	10	11	12	13	14
	14	15	16	17	18	19	20		15	16	17	18	19	20	21
	21	22	23	24	25	26	27		22	23	24	25	26	27	28
Feb.	..	..	..	..	..	..	..	Aug.	..	..	..	..	..	..	..
	..	..	..	..	1	2	3		..	..	..	1	2	3	4
	4	5	6	7	8	9	10		5	6	7	8	9	10	11
	11	12	13	14	15	16	17		12	13	14	15	16	17	18
Mar.	18	19	20	21	22	23	24	Sept.	19	20	21	22	23	24	25
	25	26	27	28	..	..	..		26	27	28	29	30	31	..
	..	..	..	..	..	1	2		..	..	..	..	..	..	1
	4	5	6	7	8	9	10		2	3	4	5	6	7	8
Apr.	11	12	13	14	15	16	17	Oct.	9	10	11	12	13	14	15
	18	19	20	21	22	23	24		16	17	18	19	20	21	22
	25	26	27	28	29	30	31		23	24	25	26	27	28	29
	..	..	..	..	..	..	..		30	..	..	..	..	..	..
May	..	..	..	..	..	..	..	Nov.	..	1	2	3	4	5	6
	1	2	3	4	5	6	7		..	7	8	9	10	11	12
	8	9	10	11	12	13	14		14	15	16	17	18	19	20
	15	16	17	18	19	20	21		21	22	23	24	25	26	27
June	22	23	24	25	26	27	28	Dec.	28	29	30	31	..	..	..
	29	30	..	..	..	..	..		..	..	..	..	1	2	3
	..	..	..	1	2	3	4		..	4	5	6	7	8	9
	6	7	8	9	10	11	12		11	12	13	14	15	16	17
July	13	14	15	16	17	18	19	Dec.	18	19	20	21	22	23	24
	20	21	22	23	24	25	26		25	26	27	28	29	30	..
	27	28	29	30	31	..	..		..	..	..	..	..	..	1
	..	..	..	..	..	1	2		..	..	..	..	..	..	8
Aug.	..	..	..	..	..	..	..	Dec.	2	3	4	5	6	7	8
	..	..	..	..	..	..	..		9	10	11	12	13	14	15
	3	4	5	6	7	8	9		16	17	18	19	20	21	22
	10	11	12	13	14	15	16		23	24	25	26	27	28	29

Figures in heavy roman type indicate days on which Union College is in session

UNION COLLEGE CALENDAR

Year 1922-1923

1922

Entrance examinations.....Thursday-Friday, September 14-15
 Registrations, upper classes...Thursday-Friday, September 14-15
 Conditions examinations.....Friday-Saturday, September 15-16
 Registration day for freshmen.....Saturday, September 16
 First Chapel exercises and recitations....Monday, September 18
 Extension courses open.....Monday, October 2
 Thanksgiving recess, beginning noon, Wednesday, November 29
 Classes resumed.....Monday, December 4
 Entrance conditions examinations, Friday-Saturday, December 8-9
 Allison Foote debate.....Friday, December 15
 Christmas recess, beginning.....Saturday, December 23

1923

Classes resumed.....Wednesday, January 3
 Day of prayer for colleges.....Thursday, January 18
 Examinations begin, first semester.....Wednesday, January 24
 First semester ends.....Saturday, February 3
 Classes begin, second semester.....Thursday, February 8
 Washington's birthday — recess.....Tuesday, February 22
 Easter recess.....Friday-Wednesday, March 30-April 4
 Conditions examinations.....Friday-Saturday, April 6-7
 Selection of junior and sophomore orators....Monday, April 16
 Presentation of prize essays.....Tuesday, May 1
 Junior week.....Friday and Saturday, May 18-19
 Moving-up day.....Saturday, May 19
 Senior examinations begin.....Tuesday, May 22
 Senior examinations end.....Saturday, May 26
 Examinations begin, second semester.....Tuesday, May 29
 Memorial day — recess.....Wednesday, May 30
 Examinations end, second semester.....Thursday, June 7
 Prize oratory of juniors and sophomores.....Thursday, June 7
 Meeting of trustees, alumni, societies.....Friday, June 8
 President's reception.....Friday, June 8
 Alumni day.....Saturday, June 9
 Baccalaureate sermon.....Sunday, June 10
 Commencement, second Monday in June.....Monday, June 11
 Entrance examinations.....Tuesday-Wednesday, June 12-13

UNION COLLEGE CALENDAR

Year 1923-1924

1923

Entrance examinations.....Thursday-Friday, September 13-14
 Registrations, upper classes....Thursday-Friday, September 13-14
 Conditions examinations.....Friday-Saturday, September 14-15
 Registration day for freshmen.....Saturday, September 15
 First Chapel exercises and recitations....Monday, September 17
 Extension courses open.....Monday, October 1
 Thanksgiving recess, beginning noon, Wednesday, November 28
 Classes resumed Monday, December 3
 Entrance conditions examinations, Friday-Saturday, December 7-8
 Allison Foote debate.....Friday, December 14
 Christmas recess, beginning.....Monday, December 24

1924

Classes resumed Thursday, January 3
 Day of prayer for colleges.....Thursday, January 17
 Examinations begin, first semester.....Wednesday, January 23
 First semester ends.....Saturday, February 2
 Classes begin, second semester.....Thursday, February 7
 Washington's birthday — recess Friday, February 22
 Easter recess.....Friday-Wednesday, April 18-23
 Conditions examinations Friday-Saturday, April 4-5
 Selection of junior and sophomore orators.....Tuesday, April 15
 Presentation of prize essays.....Thursday, May 1
 Moving-up day Saturday, May 17
 Senior examinations begin.....Monday, May 19
 Senior examinations end.....Saturday, May 24
 Examinations begin, second semester.....Monday, May 26
 Memorial day — recess.....Friday, May 30
 Examinations end, second semester.....Thursday, June 5
 Prize oratory of juniors and sophomores.....Thursday, June 5
 Meeting of trustees, alumni, societies.....Friday, June 6
 President's reception Friday, June 6
 Alumni day Saturday, June 7
 Baccalaureate sermon Sunday, June 8
 Commencement, second Monday in June.....Monday, June 9
 Entrance examinations.....Tuesday-Wednesday, June 10-11

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- FRANK BURTON, A. B., Gloversville, term of office expiring
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- J. MONTGOMERY MOSHER, A. M., M. D., 170 Washington
 avenue, Albany, N. Y., term of office expiring June, 1925
- GEORGE C. FOOTE, B. E., Port Henry, N. Y., term of office
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Instructor in Electrical Engineering

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Instructor in French

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Instructor in English

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Instructor in Mathematics

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Instructor in Mathematics

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Instructor in Electrical Engineering

JAMES MEAD HYATT, A. B.
Instructor in Physics

BENJAMIN BOOTH WAINWRIGHT, A. B.
Instructor in English

JOHN HAROLD WITTNER, B. S.
Assistant Director of Physical Education

RICHARD AUSTIN MAHER, A. B.
Instructor in Spanish and French

IRWIN STOLL NEWBURY, B. S. in MATH.
Instructor in Electrical Engineering

HENRY KNUTE SVENSON, M. A.
Instructor in Biology

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(*Winn Professor of Ecclesiastical History at Harvard University*)
Ichabod Spencer Lecturer on Psychology

IRVING LANGMUIR, PH. D.
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ALBERT W. HULL, PH. D.
Lecturer in Crystallography and X-Rays

WHEELER P. DAVEY, PH. D.
Lecturer in Crystallography and X-Rays

SAUL DUSHMAN, PH. D.
Lecturer on the Atomic Structure

JOHN B. TAYLOR, B. S.
Lecturer on Acoustics

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CONFERENCE — Professors Ellery, Garis, Hale, McKibben, Berg, Chidsey.

CONVENTIONS — Professors March, Stoller, Chidsey

DISCIPLINE — Professors Ellery, Garis, Barnes, Berg, McKibben, Wold, Waldron

LIBRARY — Mr. Miller (Librarian), and Professors Hale, Derry, Ellery, Berg, McKibben, March

SCHOLARSHIPS — Professors Ellery, Kellogg, Mavor

STAGE APPOINTMENTS — Professors McKean, Berg, McKibben, Chase

STUDENT ACTIVITIES — Professors Opdyke, Garis, Waldron

COLLEGE OFFICERS

All administrative offices are in the Administration Building

CHARLES ALEXANDER RICHMOND, D. D., LL. D.

President — Room 6

Consultation hour 12-1 daily

EDWARD ELLERY, A. M., PH. D., Sc. D.

Dean of the Faculty — Room 8

Office Hours 3-5 P. M.*

CHARLES F. F. GARIS, M. S.

Dean of Students — Room 1

Office Hours 3-5 P. M.*

FRANK BAILEY, ART. D.

Treasurer

175 Remsen St., Brooklyn

HARTLEY F. DEWEY

Assistant Treasurer — Room 3

Office Hours 8 A. M.-5 P. M.*

FRANK COE BARNES, PH. D.

Secretary — Room 2

Office Hours 3-5 P. M.*

ESTHER G. ELY

Registrar — Room 4

Office Hours 8 A. M.-5 P. M.*

JAMES H. STOLLER, PH. D.

Curator of the Museum

CHARLES N. WALDRON, B. S.

Secretary of the Graduate Council — Room 7

DEWITT CLINTON

Librarian Emeritus

WHARTON MILLER, B. S.

Librarian

Library Hours Monday-Friday: 8 A. M.-6 P. M.; 7:30-10 P. M.

Saturday: 8 A. M.-6 P. M.

Sunday: 2-6 P. M.

* Except Saturday P. M.

COURSES OF STUDY

1. Courses leading to the Degree of A. B.

In the last two years of these courses all studies are elective.

A. B. Course A. This is a classical course, both Greek and Latin being required for admission, and being continued for at least two years in college. See pages 34, 101.

A. B. Course B. This is a classical course, but does not require Greek for admission. Greek is begun on entrance and required for two years. See pages 34, 102.

A. B. Course C. This course is based on the study of mathematics, the sciences, and history, with extended work in English and other modern languages. See pages 35, 103.

A. B. Course D. This course is the same as Course C, except that it substitutes Latin in place of the first modern language requirement of that course. See pages 35, 104.

A. B. Course E. This is a Latin-scientific course, including also work in history and allied subjects, mathematics, English and other modern languages. See pages 35, 106.

Students in the classes of 1922, 1923 and 1924 who satisfactorily complete Course C, Course D or Course E will receive the degree of B.S.

After 1924 the degree of B.S. will be conferred only on those candidates who comply with the Regulation stated on page 107.

Students in full standing at the end of junior year who have the profession of medicine in view are permitted to take the first year studies of the Albany Medical College as a substitute for the studies of the senior year in Union College, provided that during their three years in Union College they have met the minimum requirements for admission to the Medical College, as stated on page 156. The academic degree is conferred on the successful completion of the first year in the Medical College.

2. Course leading to the Degree of B. S. in C. E.

Civil Engineering Course. This course offers the foundation of a broad engineering education, comprising all the essential subjects of the profession. During the third and fourth years two alternative options are offered. See pages 35, 108.

Technical Option. In this division the fundamental principles of advanced technical subjects receive emphasis.

Administrative Option. In this division studies are offered which lead to a training for engineering positions of an executive or administrative nature.

3. Course leading to the Degree of B. S. in E. E.

Electrical Engineering Course. This course is intended to give a broad and thorough engineering education, with the specific instruction requisite for electrical engineering. During the first two years of the course the work is the same as in the civil engineering course; during the junior and senior years the two courses are wholly distinct. See pages 36, 111.

4. Course leading to the Degree of B. S. in Chemistry

Chemistry Course. This course prepares for positions in industrial chemistry, for teaching chemistry, or for university studies in candidacy for a doctor's degree in chemistry. See pages 36, 113.

5. Course leading to the Degree of B. S. in Physics

Physics Course. The first two years of this course are the same as those of the course in civil engineering. The last two years provide special work in preparation for advanced scientific study and technical pursuits.

6. Two Year Pre-Medical Course

Medical Preparatory Course. This course is offered to meet the requirements for admission to the Medical Department of Union University in accordance with the recommendations of the American Medical Association. See pages 36, 117.

7. Courses leading to Graduate Degrees

These courses are open to graduates of Union College, or of any institution of a standing recognized by the faculty, who have done the necessary undergraduate work.

Course leading to degree of M. S. in C. E. See pages 66, 136.

Course leading to degree of M. S. in E. E. See pages 73, 136.

Course leading to degree of M. S. in Ch. These courses of one year's graduate study consists of lectures, laboratory practice, and research work. See pages 57, 136.

Course leading to degree of Ph. D. This course of two years' graduate study requires for admission the degree of M. S. in E. E. or an equivalent. See pages 73, 137.

REQUIREMENTS FOR ADMISSION

Application and Registration

Blank forms of application to be filled out and forwarded in advance will be furnished by the secretary on request. A registration fee of five dollars is required when the application is filed.

Candidates must be at least sixteen years old, and as a preliminary to registration, whether for examination or for enrollment, must present themselves at the office of the secretary at 8 a. m. on the date named in the calendar published in the college catalogue for the current year, and submit satisfactory testimonials of character.

Methods of satisfying the Requirements

By Examination. The regular entrance examinations are held on the Thursday and Friday immediately following Commencement, and on the Tuesday and Wednesday of the first week of the first semester. The schedule of examinations is shown on pages 47-48. Candidates for examination in any subject are expected to present a recommendation from their school principal.

By C. E. E. B. Certificate. Candidates may take the uniform entrance examinations offered by the College Entrance Examination Board. The examinations of the board are held in June of each year, and a list of the places at which they are to be held is published by the board about March 1st. Applications to attend the board's examinations must be addressed to *College Entrance Examination Board, 431 West 117th Street, New York, N. Y.*, and must be made upon a blank form to be obtained from the secretary of the board upon request. The certificates of this board are accepted for all subjects passed at a satisfactory grade.

By Regents Diploma. The academic and college entrance diplomas issued by the New York State Education Department are accepted so far as they cover the requirements for admission to the course desired.

By School Certificate. Certificates from schools approved by the faculty are accepted for graduates of the school if they cover satisfactorily the requirements for admission to the course

desired; in subjects of unsatisfactory grade an examination is required. For non-graduates certificates may, on recommendation by the principal, be accepted for subjects other than English, mathematics and modern language. Blank certificates, to be filled out by principals of schools, are furnished upon application to the *Secretary, Union College, Schenectady, N. Y.*

So far as possible all credentials should be forwarded by July 10 of the year in which the candidate desires to enter. Consideration of certificates submitted later than September 1st cannot be assured.

Students who enter the freshman class and fail to maintain their class standing are required to pass entrance examinations in the departments in which they have failed, if they apply for readmission.

Candidates who in any year are required, because of non-graduation or low grades, to take entrance examinations are not allowed credit for examinations passed unless admitted in that year.

Subjects Required for Admission to Each Course

Candidates for admission to the freshman class in any course must meet the requirements specified for that course. The subjects are numbered as in the general list given on pages 37-46.

The term *unit* is used in this catalogue in the sense established by the Carnegie Foundation and the College Entrance Examination Board, and means a course of 4 or 5 periods weekly throughout an academic year of the preparatory school.

A. B. Course A. For admission to this course the following subjects are required:

1. English: a, b ¹	See Page 37.....	3 units
2. Greek: a, b, c.....	See Page 42.....	3 units
3. Latin: a, b, c, d.....	See Page 42.....	4 units
5. Mathematics: a, b.....	See Page 45.....	2½ units
7. History: a, b, c.....	See Page 46.....	2 units
8. Electives.....	See Page 46.....	½ unit

Total 15 units

A.B. Course B. For admission to this course the following subjects are required:

1. English: a, b.....	See Page 37.....	3 units
3. Latin: a, b, c, d.....	See Page 42.....	4 units
4. Modern Languages: a or b or c.....	See Page 43.....	2 units
5. Mathematics: a, b.....	See Page 45.....	2½ units
7. History: a, b, c.....	See Page 46.....	2 units
8. Electives ..	See Page 46.....	1½ units

Total 15 units

A.B. Course C. For admission to this course the following subjects are required:

1. English: a, b.....	See Page 37.....	3 units
4. Modern Languages: a or b or c..	See Page 43.....	2 units
5. Mathematics: a, b.....	See Page 45.....	2½ units
6. Science	See Page 45.....	1 unit
7. History: c	See Page 46.....	1 unit
8. Electives	See Page 46.....	5½ units

Total 15 units

A.B. Course D. For admission to this course the following subjects are required:

1. English: a, b.....	See Page 37.....	3 units
3. Latin: a, b, c, d.....	See Page 42.....	4 units
5. Mathematics: a, b.....	See Page 45.....	2½ units
6. Science.....	See Page 45.....	1 unit
7. History: c	See Page 46.....	1 unit
8. Electives.....	See Page 46.....	3½ units

Total 15 units

A.B. Course E. For admission to this course the following subjects are required:

1. English: a, b.....	See Page 37.....	3 units
3. Latin: a, b, c, d.....	See Page 42.....	4 units
4. Modern Languages: a or b or c..	See Page 43.....	2 units
5. Mathematics: a, b.....	See Page 45.....	2½ units
7. History: a, b, c.....	See Page 46.....	2 units
8. Electives	See Page 46.....	1½ units

Total 15 units

B.S. Course in C.E. For admission to this course the following subjects are required:

1. English: a, b.....	See Page 37.....	3 units
4. Modern Languages: a or b or c..	See Page 43.....	2 units
5. Mathematics: a, b.....	See Page 45.....	2½ units
6. Science	See Page 45.....	1 unit
7. History: c.....	See Page 46.....	1 unit
8. Electives	See Page 46.....	5½ units

Total 15 units

B.S. Course in E.E. For admission to this course the following subjects are required:

1. English: a, b.....	See Page 37.....	3 units
4. Modern Languages: a or b or c.....	See Page 43.....	2 units
5. Mathematics: a, b, c, d.....	See Page 45.....	3½ units
6. Science.....	See Page 45.....	1 unit
7. History: c.....	See Page 46.....	1 unit
8. Electives.....	See Page 46.....	4½ units

Total 15 units

B.S. Course in Chemistry. For admission to this course the following subjects are required:

1. English: a, b.....	See Page 37.....	3 units
4. Modern Languages: a or b or c.....	See Page 43.....	2 units
5. Mathematics: a, b.....	See Page 45.....	2½ units
6. Chemistry.....	See Page 45.....	1 unit
7. History: c.....	See Page 46.....	1 unit
8. Electives.....	See Page 46.....	5½ units

Total 15 units

B.S. Course in Physics. For admission to this course the following subjects are required:

1. English: a, b.....	See Page 37.....	3 units
4. Modern Languages: a or b or c.....	See Page 43.....	2 units
5. Mathematics: a, b.....	See Page 45.....	2½ units
6. Science.....	See Page 45.....	1 unit
7. History: c.....	See Page 46.....	1 unit
8. Electives.....	See Page 46.....	5½ units

Total 15 units

Pre-Medical Course. For admission to this course the following subjects are required:

1. English: a, b.....	See Page 37.....	3 units
4. Modern Languages: a or b or c.....	See Page 43.....	2 units
5. Mathematics: a, b.....	See Page 45.....	2½ units
6. Science.....	See Page 45.....	1 unit
7. History: c.....	See Page 46.....	1 unit
8. Electives.....	See Page 46.....	5½ units

Total 15 units

Beginning with September, 1923, the science offered for this course must be chemistry.

Advanced Standing. Candidates from other colleges must bring letters of honorable dismissal, and certificates showing work

done. Candidates for a degree must enter not later than the beginning of the senior year.

Requirements in Individual Subjects

1. English (3 units)

The study of English in school has two main objects: (1) command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence, and appreciation.

Grammar and Composition

The first object requires instruction in grammar and composition. English grammar should ordinarily be reviewed in the secondary school; and correct spelling and grammatical accuracy should be rigorously exacted in connection with all written work during the four years. The principles of English composition governing punctuation, the use of words, sentences, and paragraphs should be thoroughly mastered; and practice in composition, oral as well as written, should extend throughout the secondary school period. Written exercises may well comprise letter-writing, narration, description, and easy exposition and argument. It is advisable that subjects for this work be taken from the student's personal experience, general knowledge, and studies other than English, as well as from his reading in literature. Finally, special instruction in language and composition should be accompanied by concerted effort of teachers in all branches to cultivate in the student the habit of using good English in his recitations and various exercises, whether oral or written.

Literature

The second object is sought by means of two lists of books, headed respectively *Reading* and *Study*, from which may be framed a progressive course in literature covering four years. In connection with both lists, the student should be trained in reading aloud and be encouraged to commit to memory some of the more notable passages both in verse and in prose. As an aid to literary appreciation, he is further advised to acquaint himself with the most important facts in the lives of the authors whose works he reads and with their place in literary history.

A. Reading

The aim of this course is to foster in the student the habit of intelligent reading and to develop a taste for good literature, by giving him a first-hand knowledge of some of its best specimens. He should read the books carefully, but his attention should not be so fixed upon details that he fails to appreciate the main purpose and charm of what he reads.

With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from each of which at least *two* selections are to be made, except as otherwise provided under Group I.

GROUP I. Classics in Translation

The Old Testament, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther. The Odyssey, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII. The Iliad, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI. The Aeneid. The Odyssey, Iliad and Aeneid should be read in English translations of recognized literary excellence. For any selection from this group a selection from any other group may be substituted.

GROUP II. Shakespeare

Midsummer-Night's Dream, Merchant of Venice, As You Like It, Twelfth Night, The Tempest, Romeo and Juliet, King John, Richard II, Richard III, Henry V, Coriolanus, Julius Caesar, Macbeth, Hamlet. The last three if not chosen for study under B.

GROUP III. Prose Fiction

Malory, Morte d'Arthur (about 100 pages); Bunyan, Pilgrim's Progress, Part I; Swift, Gulliver's Travels (voyages to Lilliput and to Brobdingnag); Defoe, Robinson Crusoe, Part I; Goldsmith, Vicar of Wakefield; Frances Burney, Evelina; Scott's Novels, any one; Jane Austen's Novels, any one; Maria Edgeworth, Castle Rackrent, or The Absentee; Dickens' Novels, any one; Thackeray's Novels, any one; George Eliot's Novels, any one; Mrs. Gaskell, Cranford; Kingsley, Westward Ho! or Here-

ward the Wake; Reade, *The Cloister and the Hearth*; Blackmore, *Lorna Doone*; Hughes, *Tom Brown's Schooldays*; Stevenson, *Treasure Island*, or *Kidnapped*, or *Master of Ballantrae*; Cooper's Novels, any one; Poe, *Selected Tales*; Hawthorne, *The House of the Seven Gables*, or *Twice Told Tales*, or *Mosses from an Old Manse*; a collection of *Short Stories* by various standard writers.

GROUP IV. Essays, Biography, etc.

Addison and Steele, *The Sir Roger de Coverley Papers*, or selections from the *Tatler* and the *Spectator* (about 200 pages); Boswell, selections from the *Life of Johnson* (about 200 pages); Franklin, *Autobiography*; Irving, selections from the *Sketch Book* (about 200 pages), or *Life of Goldsmith*; Southey, *Life of Nelson*; Lamb, selections from the *Essays of Elia* (about 100 pages); Lockhart, selections from the *Life of Scott* (about 200 pages); Thackeray, lectures on Swift, Addison and Steele in the *English Humorists*; Macaulay, any one of the following essays: *Lord Clive*, *Warren Hastings*, *Milton*, *Addison*, *Goldsmith*, *Frederic the Great*, *Madame d'Arblay*; Trevelyan, selections from the *Life of Macaulay* (about 200 pages); Ruskin, *Sesame and Lilies*, or *Selections* (about 150 pages); Dana, *Two Years before the Mast*; Lincoln, *Selections*, including at least the two Inaugurals, the *Speeches in Independence Hall* and at *Gettysburg*, the *Last Public Address*, the *Letter to Horace Greeley*, together with a brief memoir or estimate of Lincoln; Parkman, *The Oregon Trail*; Thoreau, *Walden*; Lowell, *Selected Essays* (about 150 pages); Holmes, *The Autocrat of the Breakfast Table*; Stevenson, *An Inland Voyage and Travels with a Donkey*; Huxley, *Autobiography* and selections from *Lay Sermons*, including the addresses on *Improving Natural Knowledge*, *A Liberal Education*, and *A Piece of Chalk*; a collection of *Essays* by Bacon, Lamb, DeQuincey, Hazlitt, Emerson, and later writers; a collection of *Letters* by various standard writers.

GROUP V. Poetry

Palgrave's *Golden Treasury* (First Series), Books II and III, with special attention to Dryden, Collins, Gray, Cowper, and Burns; Palgrave's *Golden Treasury* (First Series), Book IV,

with special attention to Wordsworth, Keats, and Shelley (if not chosen for study under B); Goldsmith, *The Traveller* and *The Deserted Village*; Pope, *The Rape of the Lock*; a collection of English and Scottish Ballads, as, for example, some Robin Hood ballads, *The Battle of Otterburn*, *King Estmere*, *Young Beichan*, *Bewick and Grahame*, *Sir Patrick Spens*, and a selection from later ballads; Coleridge, *The Ancient Mariner*, *Christabel*, and *Kubla Khan*; Byron, *Childe Harold*, Canto III or IV, and *The Prisoner of Chillon*; Scott, *The Lady of the Lake*, or *Marmion*; Macaulay, *The Lays of Ancient Rome*, *The Battle of Naseby*, *The Armada*, *Ivry*; Tennyson, *The Princess*, or *Gareth and Lynette*, *Lancelot and Elaine*, and *The Passing of Arthur*; Browning, *Cavalier Tunes*, *The Lost Leader*, *How They Brought the Good News from Ghent to Aix*, *Home Thoughts from Abroad*, *Home Thoughts from the Sea*, *Incident of the French Camp*, *Hervé Riel*, *Pheidippides*, *My Last Duchess*, *Up at a Villa — Down in the City*, *The Italian in England*, *The Patriot*, *The Pied Piper*, "*De Gustibus*" —, *Instans Tyrannus*; Arnold, *Sohrab and Rustum*, and *The Forsaken Merman*; selections from American Poetry, with special attention to Poe, Lowell, Longfellow, and Whittier.

B. Study

This part of the requirement is intended as a natural and logical continuation of the student's earlier reading, with greater stress laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions. The books provided for study are arranged in four groups, from each of which one selection is to be made.

GROUP I. Drama

Shakespeare, *Julius Caesar*, *Macbeth*, *Hamlet*.

GROUP II. Poetry

Milton, *L'Allegro*, *Il Penseroso*, and either *Comus* or *Lycidas*; Tennyson, *The Coming of Arthur*, *The Holy Grail*, and *The Passing of Arthur*; Book IV of *Palgrave's Golden Treasure* (First Series), with especial attention to Wordsworth, Keats, and Shelley.

GROUP III. Oratory

Burke, Speech on Conciliation with America; Washington's Farewell Address; Webster's First Bunker Hill Oration, and Lincoln's Gettysburg Address.

GROUP IV. Essays

Carlyle, Essay on Burns, with a selection from Burns's Poems; Macaulay, Life of Johnson.

Examination

The examination is divided into two parts, one of which will be on grammar and composition, and the other on literature.

However accurate in subject-matter, no paper can be considered satisfactory if seriously defective in punctuation, spelling or other essentials of good usage.

In grammar and composition, the candidate may be asked specific questions upon the practical essentials of these studies, such as the relation of the various parts of a sentence to one another, the construction of individual words in a sentence of reasonable difficulty, and those good usages of modern English which one should know in distinction from current errors. The main test in composition will consist of one or more essays, developing a theme through several paragraphs; the subjects will be drawn from the books read, from the candidate's other studies or from his personal knowledge and experience quite apart from reading. For this purpose the examiner will provide several subjects from which the candidate may make his own selections. He will not be expected to write more than four hundred words per hour.

The examination in literature includes:

a. General questions designed to test such a knowledge and appreciation of literature as may be gained by fulfilling the requirements defined under *A. Reading*, above. The candidate will be required to submit a list of the books read in preparation for the examination, certified by the principal of the school in which he was prepared; but this list will not be made the basis of detailed questions.

b. A test on the books prescribed for study, which will consist of questions upon their content, form, and structure, and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works and an appreciation of their salient qualities of style. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

2. Greek (2 units)

a. **Grammar and Composition** (1 unit). The common forms, idioms, and constructions, and the general grammatical principles of Attic Greek prose. Translation into Greek of detached sentences and very easy continuous prose based upon the *Anabasis*.

b. **Xenophon and Sight Translation** (1 unit). The first three books of the *Anabasis*.

c. **Homer** (1 unit). The first three books of the *Iliad* (omitting II, 494-end) or an equivalent amount of the *Odyssey*, and the Homeric constructions, forms, and prosody.

3. Latin (4 units)

a. **Grammar and Composition** (1 unit). The inflections; the simpler rules for composition and derivation of words; syntax of cases and the verb; structure of sentences in general, with particular regard to relative and conditional sentences, indirect discourse, and the subjunctive. Translation into easy Latin of detached sentences and very easy continuous prose based upon Caesar and Cicero.

b. **Caesar** (1 unit). Any four books of the *Gallic War*.

c. **Cicero** (1 unit). Four orations read slowly and carefully and two read more rapidly from the following list, or equivalents: The four orations against Catiline, Archias, The Manilian Law, Marcellus, Roscius, Milo, Sestius, Ligarius, the fourteenth Philippic.

d. **Vergil** (1 unit). Four books of the *Aeneid*, and so much prosody as relates to accent, versification in general, and dactylic hexameter. It is recommended that two additional books be read.

Equivalents in b, c, or d, will be accepted at the discretion of the head of the department.

Every student is required to use in the college class room the Roman Method of pronunciation, and is expected to have had practice in this method at school.

4. Modern Languages (2 units)

a. **German** (2 units). Two years' work is necessary to meet this requirement.

During the first year the work should comprise: 1. careful drill upon pronunciation; 2. the memorizing and frequent repetition of colloquial sentences; 3. drill upon the rudiments of grammar, that is, upon the inflection of the article, of such nouns as belong to the language of every-day life, of adjectives, pronouns, weak verbs, and the more usual strong verbs; also upon the use of the more common prepositions, the simpler uses of the modal auxiliaries, and the elementary rules of syntax and word-order; 4. abundant easy exercises designed not only to fix in mind the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression; 5. the reading of from 75 to 150 pages of graduated texts from a reader, with constant practice in translating into German easy variations upon sentences selected from the reading lesson, the teacher giving the English, and in reproducing from memory sentences previously read.

During the second year the work should comprise: 1. the reading of from 150 to 250 pages of literature in the form of stories and plays; 2. accompanying practice, as before, in the translation into German of easy variations upon the matter read and also in the off-hand reproduction, sometimes orally and sometimes in writing, of the substance of short and easy selected passages; 3. continued drill upon the rudiments of the grammar, with constant applications in the construction of sentences.

b. **French** (2 units). Two years' work is necessary to meet this requirement.

During the first year the course should include: 1. careful drill in pronunciation; 2. the rudiments of grammar, including the inflection of the regular and the more common irregular verbs, the plural nouns, the inflection of adjectives, participles, and pronouns; the use of personal pronouns, common adverbs,

prepositions, and conjunctions; the order of words in the sentence and the elementary rules of syntax; 3. abundant easy exercises, designed not only to fix in the memory the forms and principles of grammar, but also to cultivate readiness in the reproduction of natural forms of expression; 4. the reading of from 100 to 175 duodecimo pages of graduated texts, with constant practice of translating into French easy variations of the sentences read, the teacher giving the English, and in reproducing from memory sentences previously read; 5. writing French from dictation.

During the second year the work should comprise: 1. the reading of from 250 to 400 pages of easy modern prose in the form of stories, plays, or historical or biographical sketches; 2. constant practice, as in the previous year, in translating into French easy variations upon the texts read; 3. frequent abstracts, sometimes oral and sometimes written, or portions of the text already read; 4. writing French from dictation; 5. continued drill upon the rudiments of grammar, with constant application in the construction of sentences; 6. mastery of the forms and use of pronouns, pronominal adjectives, of all but the rare irregular verb forms, and of the simpler uses of the conditional and subjunctive.

c. Spanish (2 units). Two years' work is necessary to meet this requirement.

During the first year the work should comprise: 1. careful drill in pronunciation; 2. the rudiments of grammar, including the conjugation of the regular and the more common irregular verbs, the inflection of nouns, adjectives, and pronouns, and the elementary rules of syntax; 3. exercises containing illustrations of the principles of grammar; 4. the careful reading and accurate rendering into good English of about 100 pages of easy prose and verse, with translation into Spanish of easy variations of the sentences read; 5. writing Spanish from dictation.

During the second year the work should comprise: 1. the reading of about 200 pages of prose and verse; 2. practice in translating Spanish into English, and English variations of the text into Spanish; 3. continued study of the elements of grammar and syntax; 4. mastery of all but the rare irregular verb

forms and of the simpler uses of the modes and tenses; 5. writing Spanish from dictation; 6. memorizing of easy short poems. The emphasis should be placed on careful, thorough work with much repetition rather than upon rapid reading.

5. Mathematics ($2\frac{1}{2}$ units; $3\frac{1}{2}$ units)

a. Algebra ($1\frac{1}{2}$ units). The four fundamental operations for rational algebraic expressions; factoring, determination of highest common factor and lowest common multiple by factoring; fractions, including complex fractions, ratio and proportion; linear equations, both numerical and literal, containing one or more unknown quantities; problems depending on linear equations; radicals, including the extraction of the square root of polynomials and of numbers; exponents, including the fractional and negative.

Simple cases of equations with one or more unknown quantities that can be solved by the methods of linear or quadratic equations.

Problems depending upon quadratic equations.

The binomial theorem for positive integral exponents.

The formulas for the n th term and the sum of the terms of arithmetic and geometric progressions, with applications.

b. Plane Geometry (1 unit). The usual theorems and constructions of good textbooks, including the general properties of plane rectilinear figures; the circle and the measurement of angles; similar polygons; areas; regular polygons and the measurement of the circle.

The solution of numerous original exercises, including loci problems.

Application to the mensuration of lines and plane surfaces.

c. Solid Geometry ($\frac{1}{2}$ unit). The entire subject.

d. Plane Trigonometry ($\frac{1}{2}$ unit). The entire subject.

6. Science (1 unit)

The work in science may be offered in any of the departments named below, except that for admission to the B. S. course in Chemistry, and after 1922 to the pre-medical course, chemistry must be chosen. The figure in parenthesis shows the unit value:

- a. Physics. (1)
- b. Chemistry. (1)
- c. Biology. (1)
- d. Zoology. (1)
- e. Botany. (1)
- f. Physiography. (1)

In every instance the work expected is that outlined for the given subject in the reports of the College Entrance Examination Board and the Carnegie Foundation, or in the Syllabus of the New York State Education Department.

7. History (1 unit; 2 units)

a. Greek History ($\frac{1}{2}$ unit). In this study must be included the geography of ancient Greece.

b. Roman History ($\frac{1}{2}$ unit). In this study must be included the geography of the Roman Empire.

c. History of the United States (1 unit).

Elementary United States history will be accepted if the candidate presents in addition a year of history not otherwise required.

8. Electives ($1\frac{1}{2}$ units; $2\frac{1}{2}$ units; $3\frac{1}{2}$ units; $5\frac{1}{2}$ units)

In completing the requirements for admission to each course a fixed number of elective units in subjects not already taken from other groups must be offered from the list below.

In every instance the work expected is that outlined for the given subject in the reports of the College Entrance Examination Board and the Carnegie Foundation, or in the Syllabus of the New York State Education Department.

For admission to A. B. Course A.....	$\frac{1}{2}$ unit
For admission to A. B. Course B.....	$1\frac{1}{2}$ units
For admission to A. B. Course C.....	$5\frac{1}{2}$ units
For admission to A. B. Course D.....	$3\frac{1}{2}$ units
For admission to A. B. Course E.....	$1\frac{1}{2}$ units
For admission to B. S. Course in C. E.....	$5\frac{1}{2}$ units
For admission to B. S. Course in E. E.....	$4\frac{1}{2}$ units
For admission to B. S. Course in Chemistry.....	$5\frac{1}{2}$ units
For admission to the B. S. Course in Physics.....	$5\frac{1}{2}$ units
For admission to Pre-Medical Course.....	$5\frac{1}{2}$ units

The figure in parenthesis after each subject shows the unit value of that subject.

Greek: 1, 2, 3.. (1, 2, 3)	Roman History (½)
Latin: 1, 2, 3, 4. (1, 2, 3, 4)	English History (1)
French: 1, 2, 3.. (1, 2, 3)	Mediaeval and Modern History.. (1)
German: 1, 2, 3. (1, 2, 3)	History of English Literature... (½)
Spanish: 1, 2, 3.. (1, 2, 3)	Solid Geometry (½)
Physics (1)	Advanced Algebra..... (½)
Chemistry (1)	Plane Trigonometry (½)
Physiology (½)	Spherical Trigonometry (½)
Biology (1)	Drawing (1)
Zoology (1)	Commercial Law (½)
Botany (1)	Commercial Geography (½)
Physiography (1)	Economics (½)
Greek History (½)	Civics (½)
Ancient History (1)	Bookkeeping (1)

Entrance Examination in 1923

Entrance examinations will be held at the college in June and in September, in accordance with the schedule given below.

Only those who register at the appointed time will be admitted to the examinations of the following days.

Schedule of the June Examinations

Tuesday, June 12

8.30 A. M. Candidates register at the office of the secretary

English a	Page 38.....	9 A. M. to 11 A. M.
English b	" 40.....	11 A. M. " 1 P. M.
Science.	" 45.....	2 P. M. " 4 P. M.
Mathematics a	" 45.....	4 P. M. " 6 P. M.

Wednesday, June 13

Greek, Latin	Page 42.....	9 A. M. to 11 P. M.
French, German, Spanish	" 43.....	11 A. M. " 1 P. M.
History.	" 46.....	2 P. M. " 4 P. M.
Mathematics b, c.....	" 45.....	4 P. M. " 6 P. M.

Schedule of the September Examinations

Thursday, September 13

8.30 A. M. Candidates register at the office of the secretary

English a	Page 38.....	9 A. M. to	11 A. M.
English b	" 40.....	11 A. M. "	1 P. M.
Science.	" 45.....	2 P. M. "	4 P. M.
Mathematics a	" 45.....	4 P. M. "	6 P. M.

Friday, September 14

Greek, Latin	Page 42.....	9 A. M. to	11 A. M.
French, German, Spanish	" 43.....	11 A. M. "	1 P. M.
History.	" 46.....	2 P. M. "	4 P. M.
Mathematics b, c.....	" 45.....	4 P. M. "	6 P. M.

DEPARTMENTS OF INSTRUCTION

THE BIBLE

PROFESSOR ELLERY

The Bible. The object of this course is not to acquaint the student with books about the Bible, but with the contents of the Bible itself. The only textbook recommended and used in the classroom is the Bible. The course is divided into two parts covering the entire Bible, and each part is given in alternate years.

Part I

Genesis: The formation of a nation.

Exodus, Leviticus, Numbers: The migration of a nation.

Deuteronomy: Orations and songs of Moses.

Joshua, Judges, Ruth: A nation's transition to secular government.

First Samuel, Second Samuel, First Kings, Second Kings: A nation under theocratic and secular government.

Chronicles, Ezra, Nehemiah: The ecclesiastical history of a nation.

The Books of the Prophets.

Part II

Esther: A story of the exiled nation.

Job: A drama of the mystery of suffering.

The Psalms, Lamentations, The Song of Solomon: Bible poetry.

The Four Gospels, The Epistles, The Revelation.

Elective for juniors and seniors in the A. B. and B. S. courses. Three hours weekly throughout the year.

Part I is given in 1922-23.

BIOLOGY

ASSOCIATE PROFESSOR MAVOR, MR. SVENSON

1. **General Biology.** This course deals during the first semester with zoology, and during the second semester with botany. The work of the first semester includes a study of the physiology, anatomy, histology and development of the frog as illustrative of a typical vertebrate. This is followed by a study of selected types showing the evolution of the animal kingdom and the

problems involved therein. The work in botany consists of an introductory study of the physiology and structure of a typical flowering plant, followed by a study of a series of types illustrating the problems of the evolution of the plant kingdom and the relation of plants to man, laboratory work, lectures and recitations.

Required of freshmen in the pre-medical course. Optional for sophomores in the A. B. Course C. Elective for juniors in the A. B. courses; four hours weekly throughout the year.

2. Comparative Anatomy of Vertebrates. This course consists of a series of lectures dealing with the comparative anatomy, physiology, and evolution of vertebrates, accompanied by laboratory work in the dissection.

Required of sophomores in the pre-medical course. Elective in connection with course 3 for seniors and juniors in the A. B. courses who have had course 1. Four hours weekly during the first semester.

3. Embryology. In this course the development of a vertebrate is traced from the egg to the adult. In the laboratory the development of the frog and the chick are studied. Particular attention is paid to the earlier stages in the frog and to the later stages in the chick.

Required of sophomores in the pre-medical course. Elective in connection with course 2 for seniors and juniors in the A. B. courses who have had course 1. Four hours weekly during the second semester.

4. Microbiology. This is an elementary course dealing chiefly with bacteriology, algae in their relation to water supplies, and fungi which cause decay. Lectures and laboratory work.

Required of juniors in the B. S. in chemistry course. Three hours weekly during the first semester.

5. Experimental Biology. This is an elementary course in which special emphasis is laid on the experimental method as applied to biological problems. Lectures and laboratory work.

Required of juniors in the B. S. in physics course. Three hours weekly during the second semester.

CHEMISTRY

PROFESSOR ELLERY, ASSISTANT PROFESSOR DARBY, MR. GREELEY,

MR. SCHATZEL

DR. LANGMUIR, DR. HULL, DR. DAVEY, DR. DUSHMAN

1. General Chemistry. The course includes an exhaustive study of the non-metals and their compounds, together with the fundamental laws and modern theories of chemistry, a special study of the common metals, and a brief introduction to organic chemistry. Methods of instruction include recitations, written quizzes, illustrated lectures, and laboratory work. Laboratory practice includes the simpler methods of qualitative analysis involving the recognition of single metals and acid radicals in solution.

Required of sophomores in the civil engineering and electrical engineering courses, in the B. S. in physics course, and in the A. B. courses C and D. Elective for juniors and seniors in the A. B. courses A, B, and E. Two recitations and one laboratory period weekly throughout the year.

1a. General Inorganic Chemistry. The course includes a study of the principles and theories of chemistry and of the principal non-metallic and metallic elements as in 1. It is the foundation for the more advanced work in chemistry given in medical colleges. The laboratory work comprises qualitative analysis in the first semester and quantitative analysis in the second semester.

Required of freshmen in the pre-medical course. Elective for students in the A. B. courses who plan to enter a medical college. Three recitations and two laboratory periods throughout the year.

1b. Advanced Inorganic Chemistry. The work of this course includes a review of the fundamental laws of the science, a study of the modern theories, and of the properties and the methods of preparation of the common non-metals and metals. This is followed by the theory and study of solutions, dissociation, ionization, the relation of various forms of energy to chemical change, chemical equilibrium, the periodic system and Moseley's atomic numbers, crystal structure, radio-activity, and the electronic hypothesis of matter. The applications of chemical principles in

stoichiometry are studied by the use of many problems throughout the year.

Required of freshmen in the B. S. in chemistry course. Two hours weekly during the first semester.

2. **Qualitative Analysis.** On the experimental side this course is intended to train the student in habits of careful and exact manipulation, while developing a facility in the rapid analysis of inorganic substances. The student is required to prepare matter for analysis, and to analyze complicated mixtures. On the theoretical side the following topics are studied: Ionization and its relation to conductivity, osmotic pressure and chemical activity; chemical equilibrium and the law of mass action; the colloidal condition; solubility product.

Required of freshmen in the B. S. in chemistry course. One laboratory period weekly during the first semester.

2a. **Analytical Chemistry.** The first part of this course comprises the study of the foundation theories of qualitative analysis and a practical application of them in the group reactions of the metals and non-metals. The object of this portion of the work is to develop a facility in the rapid qualitative determination of the components of ordinary inorganic substances. The second part of the course applies the principles of analytical chemistry to quantitative determinations. After practice is gained by certain gravimetric analyses, study is made of volumetric analysis, including alkalimetry, acidimetry, iodometry, and precipitation methods with standard solutions.

Elective for juniors in the A. B. courses C and D, and for seniors in the A. B. courses A, B, and E, who have had course 1. Three hours weekly throughout the year.

This course is not offered in 1922-23.

3. **Quantitative Analysis.** The object of this course is to carry into the actual operations of exact measurements of weights and volumes the habits of carefulness and accuracy formed in course 2. The work begins with a careful calibration of weights and determination of the sensibility of the analytical balance. This is followed by the study of the preparation of pure salts by re-crystallization, by precipitation, by change of solvent, and

by double decomposition. Typical quantitative methods are then studied as follows: Determination of metals as oxid, as sulfate and sulfid, as phosphate, as chromate, and as chlorid; determination of the acids of the halogens, sulfur, and nitrogen; determination of carbonic, boric, and phosphoric acids. Following the study of these typical methods, the student is required to make a quantitative analysis of some alloys and minerals. The study of electrolytic apparatus and manipulation is then taken up, and the electrolytic determination of some metals completes the gravimetric portion of the course. The part of the course devoted to volumetric analysis includes the usual methods of acidimetry, oxidation and reduction, iodometry, and precipitation. Practical application of volumetric methods is made in analysis of iron, copper, and manganese ores, and of commercial substances such as bleaching powder, bisulfites, and certain alloys and soils.

Required of freshmen and sophomores in the B. S. in chemistry course. One laboratory period weekly during the second semester of freshman year and two laboratory periods during first semester of sophomore year.

4. Organic Chemistry. This course begins with a study of the saturated hydrocarbons, their isomerism and preparation and properties. This is followed by a study of the derivatives of the paraffines in this order: The halogen substitution products, the alcohols, the ethers, the aldehydes, the ketones, the fatty acids, esters, the amines, amids, and the carbohydrates. The work on the paraffines is followed by a study of the olefines and their derivatives, and the hydrocarbons of the acetylene series. Familiarity with these classes of organic compounds is essential to a clear understanding of the phenomenon of stereo-isomerism, which is taken up at this point. The second part of the theoretical instruction in this course is given to the study of the aromatic compounds in the following order: Benzene and its homologues; the halogen derivatives; nitro-salts; amino-compounds; the diazo-salts; the sulphonic acids and derivatives; phenols and derivatives; naphthalene and its compounds; anthracene and its compounds; pyridine and quinidine; the vegetable alkaloids; uric acid and allied compounds; terpenes; dyes and their manufac-

turing processes. The requirements of the course in experimental work include a study of the preparation of typical organic compounds of both the paraffine and the aromatic groups. Emphasis is laid not only on the production of a pure organic compound, but also upon the efficiency of the method of preparation. The students are required to secure the highest possible yield in every reaction, and are urged to study improvements of methods with a view to increasing the yield.

Required of freshmen and sophomores in the B. S. in chemistry course. Two hours weekly during the second semester of freshman year and first semester of sophomore year and four hours weekly during the second semester of sophomore year.

4a. Organic Chemistry. This course comprises the preparation of typical organic substances, and a thorough study of the principles and theories of organic chemistry. In addition to the analysis of organic compounds, students in this course have opportunity to make molecular weight determinations by the vapor density method and the boiling and freezing point method. They also have opportunity to study the effects of electrolysis on typical organic compounds.

Elective for seniors in the A. B. courses C and D who have had courses 1 and 2b. Three laboratory periods weekly throughout the year.

This course will be offered first in 1923-24.

4b. Organic Chemistry. This course comprises a study of the principal classes of carbon compounds, with emphasis upon the general types of organic reactions. Emphasis is laid upon compounds of biological importance. This course is the basis for later work in physiological chemistry. In the laboratory the work consists of the preparation of typical compounds.

Required of sophomores in the pre-medical course. Two recitations and two laboratory periods during the second semester.

5. Physical Chemistry. The aim of the course in physical chemistry is to give the student a thorough grasp of the basic principles which underlie all chemistry and to drill him in their use until they become valuable and easily handled tools. For this reason, a full third of the time devoted to classroom work

is taken up with the working of problems. The problems are designed to show clearly the theoretical basis for the methods employed in their solution, and to show the limits within which such methods may be employed. Wherever possible, actual experimental data are used.

The classroom work starts with a review of the more elementary material, the simple gas laws, Van der Waal's equation, elementary kinetic theory, etc. This is followed by a consideration of osmotic pressure, vapor pressure lowering, and the various methods of determining molecular weights by boiling point, freezing point, vapor pressure lowering and osmotic pressure measurements. The importance of the Van't Hoff "*i*" and its bearing on the theory of dissociation follows, with a consideration of past and present theories of electrolytic conductance and dissociation. The first and second laws of thermodynamics are taken up in detail, and the balance of the work is based on thermodynamics. It includes thermochemistry, heats of reaction, solution and vaporization, specific heats of solids, liquids and gases, the Clausius equation, etc. Liquids and solutions are now considered again, this time from the thermodynamic standpoint, and the work covers partial pressures, fractional distillation, vapor pressure and boiling point changes, saturated vapors and concentrated solution. This leads to the general question of the phase rule, which is now taken up in some detail. The importance of chemical equilibrium is fully emphasized. It includes the law of mass action for gases, the Van't Hoff equation, the calculation of equilibria at various temperatures, chemical affinity or free energy, equilibrium in solution and in heterogeneous systems. The Nernst Heat Theorem is considered and its importance as a sometimes rough but valuable tool for many calculations pointed out. Colloids and catalysis are studied as well as reaction velocities and hydrolysis. The latter part of the course is devoted to electro chemistry, including the energy relations, reversible and irreversible cells, potential measurements, over-voltage phenomena, gas electrodes, oxidation and reduction processes, concentration cells, polarization, etc.

The laboratory work covers the determination of molecular weights by boiling point or freezing point methods, or by both,

the distribution of substances, solubilities, vapor pressures and transformation points, conductivity studies, including the determination of cell constants, conductance measurements and electrometric titrations. Transference measurements are made, and some time given to electromotive force studies, including standard cells, calomel electrodes, dropping electrodes, measurement of single electrode potentials, etc. Rates of reaction and equilibrium measurements are made.

Required of juniors in the B. S. in chemistry course. In 1922-23 four hours weekly during the first semester and six hours during the second semester. Credit hours are divided between recitation and laboratory periods as the particular stage of the course reached at any time demands.

6. Research. Each senior in the B. S. in chemistry course is required to undertake a piece of research and to complete it in a manner satisfactory to his instructor. He is required to do all the necessary reading on the assigned problem, lay out his plan for doing the work and carry out his plan. The object is to give the student an idea of what research really means, to acquaint him with methods of securing information from chemical literature, and to give him training in experimental methods which the usual laboratory work cannot do.

For 1922-23 the following problems have been assigned:

Conductance and Ionization of Glass

The Viscosity of Glass

The effect of Humidity on the Resistance of a Suspension of Lampblack in Gelatine

Studies in Gelatine. Reaction with Silver Nitrate

Studies in the Decomposition Rate of Sodium Perborate

Corrosion of Iron in Salt Solutions

Decomposition of Acetic Acid, Methyl Alcohol and Formic Acid by Boiling with Platinum Black

The Electrolytic Oxidation of Oxalic Acid

The Rate of Corrosion of Aluminum Alloys

Required of seniors in the B. S. in chemistry course in 1922-23 nine hours weekly throughout the year.

7. **Lecture Courses.** There are given each year to the members of the junior and sophomore classes lecture courses on special topics by experts. For 1922-23 these courses are as follows:

Metals and their Alloys

Iron and Steel

Crystal Structure and the X-rays

Theoretical Chemistry

Theories of Atomic Structure.

These lectures are distributed through the year in such a way that they fit in with the scheme of instruction followed in the above list of courses. Conferences are held and examinations given on the material covered in the lectures.

Graduate Course

The degree of M. S. in Chemistry. The requirements for this degree in 1922-23 are as follows:

Minor: Thermodynamics. See page 70.

Major: The chemistry courses outlined below:

A. Advanced Physical Chemistry. The work of this course is founded on thermodynamics, but full use is made of the kinetic viewpoint in bringing out the facts. The following subjects are considered: specific heats, including the specific heats of solids, gases, saturated vapors and solids, and including the work of Einstein, Linderman, etc.; thermochemistry, systems subjected to constraint; isolated and isodynamic systems; chemical potentials, introducing the work of Gibbs; free energy and chemical affinity; the theory of solutions; the theoretical basis for the dissociation hypothesis and the modern view of dissociation phenomena, including the work of Ghosh and others; the theory of concentrated solutions; hydrolysis; common ion phenomena, including the recent work of Kraus and others; the laws of chemical equilibrium; the Nernst Heat Theorem; catalysis, phase rule, etc. The treatment is mathematical throughout.

B. Advanced Electro-Chemistry. This is essentially a segregation of the electro-chemical material given under the head of physical chemistry. It includes the application of thermody-

namics to electro-chemistry, the derivation of the Gibbs-Helm-holts equation for a system in which external forces are acting, and the use of this relation in the study of electromotive forces, potentials; the relation between electromotive forces and chemical equilibrium; concentration cells, etc. A careful study is made of the question of overvoltages and the modern theories thereof. Oxidation and reduction effects, particularly in the case of organic preparations will be considered, and some time will be devoted to such questions as the electrical conductance of metals, the Thompson effect, the Peltier effect, etc.

C. Journal Seminar. One evening a week is devoted to reports on and discussion of articles appearing in the journals. In general, these are articles in recent publications, but where necessary, less recent articles will be discussed, the original sources being used in every instance. Each student is given topics to report on, and these reports form the matter for discussion.

D. Physico-Chemical Problems. This involves the study, solution and discussion of a number of problems which cover the material outlined in the two courses above. It involves the derivation of the important relations and their use in solving problems in thermodynamics, specific heats, thermochemistry, chemical potentials, free energy, dissociation phenomena, common ion effect, the Nernst Heat Theorem, electrical potentials, chemical equilibrium, phase rule, overvoltage, etc.

E. Research. The problems assigned for 1922-23 are the Vapor Pressure of Zinc-Cadmium Alloys, and the Effect of Col-loids on Over-Voltage. The department is also doing work on the Relation Between Conductance and Alkalo Content in Glasses.

Examinations. Examinations for this degree are conducted as follows:

The examinations in the minor are those given regularly in that course.

The examination in the major is oral, and is held before a committee consisting of representatives of the department, a

representative chosen by the faculty from the departments of physics, electrical engineering or mathematics and a representative from the research laboratory of the General Electric Company selected by the director of that laboratory.

CIVIL ENGINEERING

PROFESSOR MC KIBBEN, ASSOCIATE PROFESSOR TAYLOR, ASSISTANT PROFESSOR SAYRE, MR. MATHEWS, MR. SCHAUFFLER, MR. STETSON, PROFESSOR BERG, ASSOCIATE PROFESSOR VEDDER, ASSOCIATE PROFESSOR GROVER, MR. SMITH, MR. PALERMO, MR. NEWBURY

G.E.1. Engineering Drawing. This course commences with freehand drawing, which includes the subject of form, proportion and perspective; light and shade; the aesthetics of decorative and applied design; drawing from models; and thorough practice in lettering. The last part of the semester is devoted to mechanical drawing, including the study of the care and use of instruments, mechanical lettering, shading, patent office drawing, and isometric and oblique projections.

Required of freshmen in the civil engineering course, technical and administrative options, in the B. S. in physics course, and in the electrical engineering course. One lecture and two drawing periods weekly during the first semester.

A good set of drawing instruments and other necessary drafting equipment are required for the mechanical drawing.

G.E.2. Engineering Drawing. This course continues the work in mechanical drawing commenced the first semester. Study is made of mechanical, civil, and architectural engineering drafting room conventions; rendering in color; orthographic projection of solids in the four quadrants; machine sketching; the development of working drawings; and blue printing.

Required of freshmen in the civil engineering course, technical and administrative options, in the B. S. in physics course, and in the electrical engineering course. Two drawing periods weekly during the second semester.

G.E.3. Engineering Drawing. This course covers practically the same work as that given in G.E.1 and G.E.2, although less time is spent upon each part.

Required of freshmen in the B. S. in chemistry course. Two drawing periods weekly throughout the year.

A good set of drawing instruments and other necessary drafting equipment are required for the mechanical drawing.

G.E.4. Elementary Surveying. This course starts with mensuration of lines, surfaces, and solids, including the principles involved in direct and indirect measurements. This is the preparation for the major part of the course, which is a careful study of the elementary principles of surveying. Precision and error are made an important feature in connection with the use, manipulation, and adjustment of the engineer's transit, level, and chain. Field and plotting work accompany class room study.

Required of freshmen in the civil engineering course, technical and administrative options, in the B. S. in physics course, and in the electrical engineering course. One recitation and two field or drawing periods weekly during the second semester.

G.E.5. Plane and Topographic Surveying. Summer Term. This course is a continuation of G.E.4 and consists of a study of the methods of plane surveying. Various methods of traversing, running profiles, and engineering surveying are studied. Computations include problems involving latitudes and departures, coordinates, areas, omitted measurements, error of closure, parting off land, earth work and boundaries; principles of stadia measurements and their applications; methods of locating contours; use of the plane table.

Field work and plotting are conducted along practical lines to illustrate the application of these principles.

Three hours' credit is given for satisfactory completion of this course.

Required of freshmen in the civil engineering course, technical and administrative options, in the B. S. in physics course, and in the electrical engineering course, at the close of the freshmen year. One recitation and seven hours of field or office work daily for fifteen days.

G.E.6 and 8. Engineering Lectures. Lectures are given on topics pertaining to the training and qualifications of an engineer and to the engineering profession; the history of science

and engineering; the history of architecture; foundations for engineering structures, such as power stations, bridges, dams; development of water power and hydro-electric plants.

Required, G.E.6, of freshmen in the civil engineering course, technical and administrative options, in the B. S. in physics course, and in the electrical engineering course, two hours weekly during the first semester; G.E.8, of sophomores in the civil engineering course, technical and administrative options, and in the electrical engineering course, two hours weekly during the second semester.

G.E.7. Elementary Machine Design. A study of various mechanisms, such as cams, gears, screws, belting, used in machines, is made by means of drawing exercises.

Required of sophomores in the civil engineering course, technical and administrative options, in the B. S. in physics course, and in the electrical engineering course. Two two-hour drawing periods weekly in the first semester.

C.E.9. Railway and Highway Engineering. This is a study of reconnaissance and location of railways and highways. It also includes railway curves, frogs and switches, turnouts, easements and earthwork; financing and administration of street and road building projects; types and materials of construction, the design, inspection and maintenance of highways and streets. Field practice and office computations accompany the recitations.

Required of juniors in the civil engineering course, technical option. Two recitations and one four-hour field or office period weekly during the first semester.

C.E.10. Machine Design. This course includes the principles underlying the design and construction of machines, including construction of centrodes, the preparation of displacement, velocity, and acceleration diagrams.

Required of juniors in the civil engineering course, technical and administrative options. One recitation and two design periods weekly during the first semester.

C.E.11. Hydraulics. This course consists of a study of static and kinetic pressure of water, the flow of water in open chan-

nels and through pipes; centrifugal pumps, turbines and impulse wheels; elements of water power plants.

Required of juniors in the electrical engineering course. Two recitations and one laboratory or seminar period weekly during the first semester.

C.E.12. Hydraulics. This course covers the same topics as C.E.11 but more time is devoted to each topic.

Required of juniors in the civil engineering course, technical and administrative options. Three recitations and one laboratory or seminar period weekly during the second semester.

C.E.13. Theory of Elasticity. In this course are included the principles of mechanics in the solution of advanced problems in statics, kinetics, work, and mechanics of materials; general theory of elasticity.

Required of juniors in the civil engineering course, technical option. Three recitations or lectures weekly during the second semester.

C.E.14. Mechanics of Materials. This comprises a study in the strength of materials, including stresses and strains of all kinds of bodies subjected to various loadings. The course also takes up the production, preparation and physical properties of engineering materials.

Required of juniors in the civil engineering course, technical and administrative options. Four recitations weekly during the second semester.

C.E.15. Testing Laboratory. This course, given in conjunction with C.E.14, includes tests to determine the physical properties of engineering materials such as wood, steel, cement, concrete.

Required of juniors in the civil engineering course, technical and administrative options. One laboratory period of three hours weekly during the second semester.

C.E.16. Accounting. This course comprises a study of the elements of accounting, including the significance of double entry bookkeeping, assets and liabilities, good-will, analysis of financial statements, balance sheets, valuation, depreciation. It is not intended to train bookkeepers or accountants.

Required of juniors in the civil engineering course, technical and administrative options. Two lectures or recitations weekly during the second semester.

C.E.17. Railway Engineering. This is a course in the economic location, construction and operation of railways; railway legislation; operating conditions affecting location; electric traction; train and locomotive resistances; locomotive ratings; ruling and momentum grades; economy of grade reductions and of heavy train loads.

Required of seniors in the civil engineering course, technical option. Two lectures or recitations weekly during the first semester.

C.E.18. Structural Engineering. In this course is included the application of the principles of mechanics to the determination of stresses in the various forms of bridges and roof trusses; the principles of design of structural steel columns, trusses, beams and girders for railway and highway bridges, office and mill buildings.

Required of seniors in the civil engineering course, technical and administrative options. Four hours weekly during the first semester.

C.E.19. Structural Design. This course deals with the calculations of stresses in, and the design of, a plate girder railroad bridge, including all details; a shop drawing.

Required of seniors in the civil engineering course, technical and administrative options. Two two-hour drawing periods or seminars weekly during the first semester.

C.E.20. Business Law. This is a course in business law for engineers, including evidence; the law of contracts, torts, equity, real property, agency, sales, negotiable instruments; the engineer's legal relations.

Required of seniors in the civil engineering course, technical and administrative options. Elective for seniors in the electrical engineering course. Three recitations or lectures weekly during the first semester.

C.E.21. Hydraulic Engineering. Under this study are considered rainfall, run-off, storage of water, quality of water, puri-

fication of and distribution of water in connection with public water supplies. A complete design is made for a water supply system for a small city.

Required of seniors in the civil engineering course, technical option. Two recitations and one two-hour design period weekly during the first semester.

C.E.22. Finance and Banking. Under finance the following topics are studied: forms of business organization, corporations, owned and borrowed capital, securing capital, investment of capital funds, working capital, determination and disposition of net income, reorganization. Banking includes: history of banking, functions of the bank, national banks, trust companies, savings banks, loans and discounts, bank supervision, and the Federal Reserve system.

Required of seniors in the civil engineering course, technical and administrative options. Three lectures or recitations weekly during the first semester.

C.E.23. Heat Engineering. This course follows the thermodynamics of the junior year and includes: the study of heat, thermodynamics, properties of steam, calorimeters, combustion and fuels, boilers and accessories, stokers, economizers and superheaters, steam engines, testing of steam engines, valve gears, governors, and compound engines.

Required of seniors in the civil engineering course, technical and administrative options. Three recitations or lectures weekly during the first semester.

C.E.24. Heat Engineering. This course is a continuation of C.E.23 and includes the study of condensers, steam turbines, gas engines, pumps.

Required of seniors in the civil engineering course, technical and administrative options. Three recitations or lectures weekly during the second semester.

C.E.25. Reinforced Concrete. This course includes a study of the manufacture of cement; the physical properties of cements and concretes; the design and construction of reinforced concrete structures, such as buildings and bridges; theory of reinforced concrete design; and arches and retaining walls.

Required of seniors in the civil engineering course, technical option. Three lectures or recitations weekly during the second semester.

C.E.26. Advanced Structures. In this course is included the determination of stresses in continuous girders, draw and cantilever bridges, metallic arches; the theory of deflections and applications to indeterminate structures; construction and design of dams.

Required of seniors in the civil engineering course, technical and administrative options. Four lectures or recitations during the second semester.

C.E.27. Structural Design. This course consists of exercises in calculation of and designs for steel structures; graphic determination of stresses; design for a dam.

Required of seniors in the civil engineering course, technical option. One two-hour period weekly during the second semester.

C.E.28. Contracts and Specifications. In this course is included contract letting, the advertising for bids, information for bidders, the form of the contract, the bond, and specifications.

Required of seniors in the civil engineering course, technical and administrative options. Two lectures or recitations weekly during the second semester.

C.E.29. Sanitary Engineering. This subject includes the design and construction of sewerage systems; sewage disposal; and sanitation.

Required of seniors in the civil engineering course, technical options. Three lectures or recitations weekly during the second semester.

C.E.30. Business Administration. This course includes a study of the principles of industrial management; industrial and plant location; plant equipment, organization and management.

Required of seniors in the civil engineering course, technical and administrative options. Three lectures or recitations weekly during the second semester.

Graduate Course

The Degree of M. S. in C. E. This course of one year's resident graduate study, consisting of lectures, laboratory and research work, is open to graduates of the civil engineering course, technical or administrative option, of Union College or of any other institution of a standing recognized by the faculty. On its successful completion the degree of Master of Science in Civil Engineering is conferred.

ECONOMICS

ASSISTANT PROFESSOR DERRY

1. Elements of Economics. This is an introductory course dealing with the development, principles, and processes of modern economic production, distribution, exchange and consumption of wealth. Attention is also given to some of the practical problems growing out of our economic life.

Elective for juniors in the A. B. courses. Required of seniors in the B. S. in chemistry course. Three hours weekly throughout the year.

2. Elements of Economics. This course is the same as course 1, except that special attention is given to correlating economic principles with engineering.

Required of seniors in the electrical engineering course and of juniors in the civil engineering course. Technical and administrative options. Three hours weekly during the first semester.

3. Banking. The history and theory of banking are studied in this course. Special attention is given to modern banking practice in this country and to the Federal Reserve System.

Elective for seniors in the A. B. courses. Three hours weekly during the first semester.

4. Public Finance. In this course the theory and practice of public financing are considered with particular reference to problems of taxation and the budget system.

Elective for seniors in the A. B. course. Three hours weekly during the second semester.

5. Statistical Methods. After a preliminary study of the value of statistics as an aid to scientific investigation, the principal methods of statistical inquiry are examined.

Elective for seniors in the A. B. courses. Three hours weekly during the first semester. Alternate with course 5.

6. Accounting. After a brief introduction to the theory and practice of keeping business records, the principles of accounting are considered in detail. Special attention is given to cost-accounting and financial statements and reports.

Elective for seniors in the A. B. courses. Three hours weekly during the second semester. Alternate with course 6.

Note: Courses 3 to 6 are open only to such students as have completed Course 1 or Course 2.

ELECTRICAL ENGINEERING

PROFESSOR BERG, ASSOCIATE PROFESSOR VEDDER, ASSOCIATE PROFESSOR GROVER, MR. SMITH, MR. PALERMO, MR. NEWBURY
PROFESSOR MC KIBBEN, ASSOCIATE PROFESSOR TAYLOR, ASSISTANT PROFESSOR SAYRE, MR. SCHAUFFLER, MR. MATHEWS

G.E.1. Engineering Drawing. This course commences with freehand drawing, which includes the subject of form, proportion and perspective; light and shade; the aesthetics of decorative and applied design; drawing from models; and thorough practice in lettering. The last part of the semester is devoted to mechanical drawing, including the study of the care and use of instruments, mechanical lettering, shading, patent office drawing, and isometric and oblique projections.

Required of freshmen in the civil engineering course, technical and administrative options, in the B. S. in physics course, and in the electrical engineering course. One lecture and two drawing periods weekly during the first semester.

A good set of drawing instruments and other necessary drafting equipment are required for the mechanical drawing.

G.E.2. Engineering Drawing. This course continues the work in mechanical drawing commenced the first semester. Study is

made of mechanical, civil, and architectural engineering drafting room conventions; rendering in color; orthographic projection of solids in the four quadrants; machine sketching; the development of working drawings; and blue printing.

Required of freshmen in the civil engineering course, technical and administrative options, in the B. S. in physics course, and in the electrical engineering course. Two drawing periods weekly during the second semester.

G.E.3. Engineering Drawing. This course covers practically the same work as that given in G.E.1 and G.E.2, although less time is spent upon each part.

Required of freshmen in the B. S. in chemistry course. Two drawing periods weekly throughout the year.

A good set of drawing instruments and other necessary drafting equipment are required for the mechanical drawing.

G.E.4. Elementary Surveying. This course starts with mensuration of lines, surfaces, and solids, including the principles involved in direct and indirect measurements. This is the preparation for the major part of the course, which is a careful study of the elementary principles of surveying. Precision and error are made an important feature in connection with the use, manipulation, and adjustment of the engineer's transit, level, and chain. Field and plotting work accompany class room study.

Required of freshmen in the civil engineering course, technical and administrative options, in the B. S. in physics course, and in the electrical engineering course. One recitation and two field or drawing periods weekly during the second semester.

G.E.5. Plane and Topographic Surveying. Summer Term. This course is a continuation of G.E.4 and consists of a study of the methods of plane surveying. Various methods of traversing, running profiles and engineering surveying are studied. Computations include problems involving latitudes and departures, coordinates, areas, omitted measurements, error of closure, parting off land, earth work and boundaries; principles of stadia measurements and their applications; methods of locating contours; use of the plane table.

Field work and plotting are conducted along practical lines to illustrate the application of these principles.

Three hours' credit is given for satisfactory completion of this course.

Required of freshmen in the civil engineering course, technical and administrative options, in the B. S. in physics course, and in the electrical engineering course, at the close of the freshman year. One recitation and seven hours of field or office work daily for fifteen days.

G.E.6 and 8. Engineering Lectures. Lectures are given on topics pertaining to the training and qualifications of an engineer and to the engineering profession; the history of science and engineering; the history of architecture; foundations for engineering structures, such as power stations, bridges, dams; development of water power and hydro-electric plants.

Required, G.E.6, of freshmen in the civil engineering course, technical and administrative options, in the B. S. in physics course, and in the electrical engineering course, two hours weekly during the first semester; G.E.8, of sophomores in the civil engineering course, technical and administrative options, and in the electrical engineering course, two hours weekly during the second semester.

G.E.7. Elementary Machine Design. A study of various mechanisms, such as cams, gears, screws, belting, used in machines is made by means of drawing exercises.

Required of sophomores in the civil engineering course, technical and administrative options, in the B. S. in physics course, and in the electrical engineering course. Two two-hour drawing periods weekly in the first semester.

M.E.1. Advanced Mechanics. This course takes up the principles of mechanics from the engineering point of view. The principles of elementary mechanics are extended to three dimensions. The topics treated include: Statics, dynamics of a particle, rigid dynamics, moments of inertia, work, energy, friction, etc.

Required of juniors in the civil engineering, the electrical engineering, and the B. S. in chemistry courses. Four hours weekly during the first semester.

M.E.2. Advanced Mechanics. This course includes structures, strengths of material, and hydraulics.

Required of juniors in the electrical engineering and B. S. in chemistry courses. Five hours weekly during the second semester.

M.E.3. Thermodynamics. In this course the fundamental principles of thermodynamics are developed along with the mathematics necessary. The mechanical properties of perfect gases are treated, together with gas engine cycles, air-refrigeration, etc.

Required of seniors in the electrical engineering course. Three hours weekly during the first semester.

M.E.4. Thermodynamics. The fundamental principles of thermodynamics are applied to saturated and superheated steam, ammonia, and other vapors. The principles of the steam turbine, reciprocating, and gas engine are developed, and in this connection special study is made of the flow of fluids.

Required of seniors in the electrical engineering course. Three hours weekly during the second semester.

M.E.6. Thermodynamics. For description see M.E.3.

Required of juniors in the civil engineering courses. Two hours weekly during the second semester.

E.E.1. Elements of Electricity, Magnetism, and Theory of Direct Current Machines. This is an elementary course and is based on physics and mathematics.

Required of juniors in the electrical engineering course. Three hours weekly during the first semester.

E.E.2. Principles of Alternating Currents. This course includes the representation of alternating current waves and a review of the theory of complex numbers.

Required of juniors in the electrical engineering course. Three hours weekly during the second semester.

E.E.3. Theory of Alternating Current Machines. This course deals with the transformer and the alternator.

Required of seniors in the electrical engineering course. Three hours weekly during the first semester.

E.E.4. Theory of Alternating Current Machines. Continued. This course deals with the synchronous motor, induction motor, rotary converter, alternating current commutator motors, and simple transient phenomena. Problems of illumination and power plant economics.

Required of seniors in the electrical engineering course. Three hours weekly during the second semester.

E.E.5 and E.E.6. Elements of Electricity, Direct Current Machines, Alternating Current Machines. These are courses combining recitations and laboratory work. They cover in a non-mathematical way that part of electrical engineering which is given in E.E.1 and E.E.2.

Required of juniors in the civil engineering course. Three hours weekly throughout the year.

E.E.7 and E.E.8. Alternating Current Machines. These are courses combining recitations and laboratory work. They cover in a non-mathematical way that part of electrical engineering which is given in E.E.3 and E.E.4.

Required of seniors in the civil engineering course. Three hours weekly throughout the year.

E.E.13. Seminar. This is a course intended to bring the student in touch with phases of electrical engineering which do not enter entirely into the work of the other courses. It includes lectures by members of the department, the presentation and discussion of papers by the students themselves, and local trips of inspection to the works of the General Electric Company.

Required of seniors in the electrical engineering course. One hour weekly during the first semester.

E.E.14. Seminar. This course is a continuation of E.E.13.

Required of seniors in the electrical engineering course. One hour weekly during the second semester.

E.E.21. Junior Electrical Laboratory. This is a course in laboratory work in which studies and measurements of elementary circuits are carried on. It deals also with more advanced direct current measurements and the tests of direct current generators and motors.

Required of juniors in the electrical engineering course. Four hours weekly during the first semester.

E.E.22. Junior Electrical Laboratory. This is a course in laboratory work dealing with more advanced direct current measurements and the study of elementary alternating current circuits.

Required of juniors in the electrical engineering course. Three hours weekly during the second semester.

E.E.23. Senior Electrical Laboratory. This is a course in laboratory work dealing with alternating current circuits and apparatus, especially the transformer and alternator.

Required of seniors in the electrical engineering course. Four hours weekly during the first semester.

E.E.24. Senior Electrical Laboratory. This is a course in laboratory work dealing largely with synchronous and induction motors and the synchronous converter.

Required of seniors in the electrical engineering course. Four hours weekly during the second semester.

E.E.34. Electrical Machine Design. This is a course in the designing of electrical apparatus, particularly the transformer, generator, and the induction motor.

Required of seniors in the electrical engineering course. Three hours weekly during the second semester.

Literary Essay. A literary essay on a subject determined by the department of English is prescribed during the first semester of the junior and senior years.

Special Lectures. During the year a few lectures on highly specialized subjects are given by prominent engineers. These lectures are open to juniors, seniors and graduate students, and attendance is optional.

Inspection Trips. It is desirable that each student in the electrical engineering courses participate during his college life in extended trips of inspection of engineering activities. Such trips are, therefore, arranged at a low cost to each man and vary from year to year. It is the policy of the department to continue to arrange such trips and to conduct them when sufficiently representative groups of men can attend.

Graduate Courses

The Degree of M. S. in E. E. To students desiring to continue their electrical studies a short time beyond the four-year course, a graduate course of one year is offered in which, besides instruction in higher branches of electrical engineering, advanced mathematics and physics, there is occasion to carry out original investigations in electrical engineering practice on subjects closely connected with the most recent advance of electrical engineering. This course leads to the degree of Master of Science in Electrical Engineering, and is open to graduates of Union College or of other institutions approved by the faculty. The work must be done in residence, but the lectures are given at such hours as frequently permit students and young engineers of the General Electric Company to attend.

Credit for the work required in candidacy for the master's degree may be given to students who combine work with the General Electric Company and work at the college. When the work is divided in this way two years are required for its completion. Before the degree is awarded the candidate must present an acceptable thesis describing original research in electrical science. The thesis may be accepted at any time within five years of the completion of the work in course.

The following courses in electrical engineering are given:

E.E.101. A course dealing with electric transient phenomena and with problems in electro-statics

E.E.102. A course which supplements E.E.101 and covers experimental work of an advanced character

The following courses in mechanical engineering are offered:

M.E.101. A course of lectures on hydrodynamics

M.E.102. A course of lectures on elasticity

M.E.103. A course of lectures on heat conduction

The Degree of Ph. D. The degree of Doctor of Philosophy is not given on the completion of a certain amount of work or the study of stated subjects for a definite period of time, but is intended to be a mark of breadth of training and high attainment. It is conferred upon the candidate who satisfactorily fulfills the following conditions:

1. A minimum of three full years of graduate work in resi-

dence, two of which must be passed at Union College, is necessary.

2. The major subject of study must be electrical science.

3. Two minor subjects of study must be pursued: the first must be mathematics, or physics, or chemistry; the second must be philosophy.

4. At the completion of the course, and two months before the conferring of the degree, a suitable thesis must be presented to the head of the electrical engineering department, representing original work and indicating strength and ability in independent investigation.

5. Fifty printed and bound copies of the thesis must be deposited in the college library before the successful candidate may receive the diploma for his degree. The degree may be conferred, however, before such copies are deposited, upon the presentation to the treasurer of proper security for their provision. In this case, a bound typewritten copy must be placed in the library previous to the conferring of the degree.

Students engaged in research work at the laboratories of the General Electric Company, under the direction of the head of the department of electrical engineering at the college, not devoting their whole time to the work of the course, may be given half time credit for work satisfactorily completed at the college. During the last year the candidate for the degree of Doctor of Philosophy must, however, devote his entire time to work at the college.

THE ENGLISH LANGUAGE AND LITERATURE

PROFESSOR HALE, ASSOCIATE PROFESSOR CHASE, MR. OAKES,

MR. CLINE, MR. WAINWRIGHT

1. **English Composition.** The chief object of this course is to train the student to use the English language clearly, correctly, and effectively. To this end, a considerable amount of theme-writing and frequent personal conferences with the instructor are required. Once a week through November, December, and January the class meets in large groups (of from fifty to one hundred) to listen to a half hour's talk by some member of the faculty and to write a report of what he said. At the other meetings, in small classes, instruction is given in the principles

of composition, word-study, letter-writing, and so forth. In 1922-23 Young's Freshman English and Woolley's Handbook of Composition are used as text-books. Some outside reading is also assigned.

In the second semester the amount of reading is increased to four or five books of considerable length, which are the subjects of class discussions and of written reports. The aim is to foster an intelligent interest in good literature, while continuing the training in the art of expression. Books selected for 1922 are Macaulay's Historical Essays, Palgrave's Golden Treasury, Thackeray's The Newcomes, and Selections from Stevenson.

Required of all freshmen. Three hours weekly throughout the year.

2. Introduction to English Literature. This is a course of general reading aiming principally to acquaint the student with some of the masterpieces of English literature. It is intended also to give training in the habit of careful reading and to furnish something of an historical background for more advanced study. In the first semester six plays of Shakespeare are studied, and Neilson and Thorndike's Facts About Shakespeare is used for reference and additional information. In the second semester the subject is the literature of the eighteenth century, and the reading consists of four or five of the important prose works of the period and the poems of Pope.

Required of sophomores in the A. B. and pre-medical courses; three hours weekly throughout the year.

3. Introduction to English Literature. The first semester's reading is in nineteenth century essays dealing with science, art, literature, and politics, the chief aim being to stimulate reflection and discussion on these subjects and to present to the student certain significant contributions to modern thought. In the second semester the subject is Shakespeare, and the work is similar to that of the first semester of course 2.

Required of sophomores in the civil and electrical engineering courses, and in the B. S. in physics course; two hours weekly throughout the year.

English 4. English Literature of the Nineteenth Century.

This course offers a view of the life and thought of the period as represented by certain leading poets and prose-writers. In the first semester the subject is the Romantic Movement (1798-1832), studied in the poetry of Wordsworth, Coleridge, Byron, Scott, Shelley, and Keats. The historical survey is followed by a discussion of some of the fundamentals of poetic theory, presented in W. A. Neilson's *Essentials of Poetry*.

In the second semester the subject is the development of the English novel from Fielding to Hardy. Most of the novels to be studied deal with aspects of the life of their own period, and will therefore afford the student material out of which to form his picture of the social changes in England between 1750 and 1890. The treatment, however, is in the main not sociological but literary; the chief interest will lie in the point of view toward life and toward his art of each novelist, and the special powers, artistic or intellectual, exhibited in the work of each.

Elective for seniors and juniors in the A. B. courses. Three hours weekly throughout the year.

5. American Literature. The course follows rather definitely the book of texts used, *Century Readings in American literature*, with the addition of lectures and illustrative material from the library.

Elective for juniors in the A. B. courses. Three hours weekly throughout the year.

7. Modern English Literature. A study of the English and American literature of the last half century: its object is to give the student an idea of modern points of view. In 1922-23 the course deals with fiction and the drama.

Elective for seniors in the A. B. courses. Three hours weekly throughout the year.

8. Chaucer and the Fourteenth Century in England. The greater part of Chaucer's works, as presented in Neilson and Patch's *Selections from Chaucer*, will be read, and toward the end of the year, other 14th Century poetry. Throughout the year there will be assignments for outside reading and reports on the art, religion, literature, and manners of the Middle Ages. But

the principal object in view is an intimate acquaintance with Chaucer's poetry.

Elective for seniors and juniors in the A. B. courses. Three hours weekly throughout the year.

Given in 1922-23; to be omitted in 1923-24.

9. Advanced Composition.

Elective for juniors and seniors in the A. B. courses. Three hours weekly throughout the year.

Not given in 1922-23.

Honor Course. Students who desire to be candidates for special honors should consult the head of the department early in the second semester of junior year.

GEOLOGY

PROFESSOR STOLLER

1. General Science. The purpose of this course is to give the student a knowledge of the more general phenomena of nature and training in the methods of scientific study. The topics are taken up in such order as to secure continuity and a logical development of the course. The work begins with the study of the weather and its causes (meteorology). The effects of the daily occurring change in nature in building up the exterior of the earth are then considered (physical geography and structural geology). This is followed by the study of the history of the earth and its inhabitants (historical geology and evolution). The study of prehistoric man, as based on geologic evidence leads to the final topic of the course—man and his place in nature (anthropology).

Required of freshmen in the A. B. courses C and D. Three hours weekly throughout the year.

2. General Science. This work follows the line of treatment of the preceding course but with some variation of the topics and with more attention given to the interpretative side of geologic and biologic science. The topics considered are, in order, meteorology, dynamic geology, historical geology and evolution, anthropology, genetics, and eugenics.

Optional with mathematics for sophomores in the A. B. courses A, B, and E. Three hours weekly throughout the year.

3. General Geology. This course is of a somewhat advanced character and includes laboratory work in mineralogy and lithology, and the interpretation of topographic and geologic maps. A number of field trips are made and the geology of the New York State formations, especially as represented in the region around Schenectady, is studied somewhat in detail.

Elective for juniors and seniors in the A. B. courses. Three hours weekly throughout the year.

4. Engineering Geology. In this course, after an introductory study of common minerals and rocks and the elements of structural geology, the work is related to the kinds and modes of occurrence of economic materials, as building stones, coal, oil, gas, and mineral ores.

Required of juniors in the civil engineering courses; three hours weekly during the first semester. Optional with mathematics for seniors in the B. S. in chemistry course. Three hours weekly throughout the year.

THE GREEK LANGUAGE AND LITERATURE

DR. COFFIN

1a. Plato: Apology and Crito. **Homer:** Odyssey, selections. One Greek drama.

Required of freshmen in the A. B. course A; elective for juniors in the A. B. course B. Three hours weekly throughout the year.

1b. The Elements of Greek. Beginners' course. Greek Reader, semantics, the English vocabulary.

Required of freshmen in the A. B. course B; elective for juniors and seniors in the A. B. courses C, D, E. Three hours weekly throughout the year.

2a. Demosthenes: De Corona. Selections from Thucydides and Herodotus.

Required of sophomores in A. B. course A; elective for seniors in A. B. course B. Three hours weekly throughout the year.

2b. Xenophon: Selections from the *Anabasis*. **Homer:** *Iliad*, books I to III. Selected fables and sketches illustrative of Greek life and thought.

Required of sophomores in the A. B. course B. Three hours weekly throughout the year.

3. The Greek Drama. Selected plays of **Aeschylus, Sophocles, Euripides, and Aristophanes.** Lectures on the Greek theatre.

Elective for juniors in A. B. course A. Three hours weekly throughout the year.

4. Plato: *Phaedo* and *Republic*. **Aristotle:** *The Nicomachean Ethics*.

Elective for seniors in the A. B. course A. Three hours weekly throughout the year.

For special excellence in this course honors in Greek are awarded.

5. History of Greek Literature from Homer to Theocritus. General course, conducted by lectures and discussions, with outside reading in translation of the authors considered. No knowledge of Greek required.

Optional with History of Philosophy, Biology and Mathematics for sophomores in A. B. courses C, D, E. Three hours weekly throughout the year.

The content of Courses 1a, 2a, 3 and 4 may be varied from year to year to suit the needs of the student.

HISTORY AND GOVERNMENT

ASSOCIATE PROFESSOR GEORGE, ASSISTANT PROFESSOR JONES, ASSISTANT PROFESSOR WALDRON

European History

1. The Development of Western European Civilization (cir. 375-1919). This course involves a study of the political, social, and economic evolution of Western Europe from the period of the Later Roman Empire to the Treaty of Versailles. Stress is laid on the special contributions made to such development by the various peoples and institutions that have existed in Western Europe during that period, and their permanent contributions specially emphasized. An introductory course designed to place

the student in possession of certain historical information and to serve as an introduction to further historical study.

Required of freshmen in the A. B. courses C, D, E. Three hours weekly throughout the year.

2. The Development of Western European Civilization. Same as History 1 above.

Required of sophomores in the A. B. courses C, D, E, and of juniors in the civil engineering course, administrative option. Three hours weekly throughout the year.

3. Modern European History (1789-1919). This course provides for a detailed examination of the political, social and economic movements which have brought the Europe of to-day into being. An effort is made to acquaint the student fully with the immediate background of those problems which beset the European world of to-day, special attention being given in the second semester to the causes of the World War of 1914-1919.

Elective for juniors in the A. B. courses who have had history 1. Three hours weekly during the year.

4. English History. A general survey of the history of England with emphasis on the rise and growth of the Anglo-Saxon system of self-government and the formation of the British Empire of today.

The course is designed to acquaint the student with the methods of historical study and includes a certain amount of collateral reading.

Elective for juniors in the A. B. courses. Three hours weekly throughout the year.

5. History of the World War. This course deals with the causes, events and results of the World War. The lectures cover a brief review of the last half of the 19th century, with special attention to the diplomacy and economic struggles of the period of the Armed Peace. They then deal in detail with the events of the war, statements of war aims, settlements of the Peace of Versailles, and problems arising out of it. The readings deal with various economic, political, and social theories, and are aimed to familiarize the student with the books which most

powerfully affected public opinion before, during and after the war, and to illustrate the thought behind the war.

Elective for seniors in the A. B. courses who have had history 1. Three hours weekly throughout the year.

American History

6. History of the United States. A study is made of the period of American history beginning with the adoption of the Constitution and continuing to the World War. The work is based on two text-books and lectures. The reading is required each term of one approved biography taken from a given list of American statesmen. Emphasis is laid upon the development of the more important American political and social institutions.

Required of sophomores in the civil engineering, electrical engineering, B. S. in physics, and B. S. in chemistry courses. Two hours weekly throughout the year.

7. History of the United States (Advanced Course). The study covers American history from the adoption of the Constitution to the World War. The work consists in reports on topics assigned for study which are presented in class and discussed. No text-book is used. The aim is to familiarize the students with the more important writings of American historians and to develop initiative and independent habits of thought and study. Topics are chosen so as to give the students detailed knowledge and comprehension of the more important phases of our development as a nation.

Elective for seniors and juniors in the A. B. courses. Three hours weekly throughout the year.

Honors in History

8. Honors Course. The subject matter of this course is determined by a conference between the student and the head of the department, and may be drawn from any field of European or American history. It offers an introduction to methods of historical study and criticism and affords an opportunity for detailed investigation in a limited field.

Open to seniors who have complied with the requirement for special honors. Three hours weekly throughout the year.

Government

1. **Introduction to Political Science.** The first semester of this course is devoted to a study of the growth of the English Constitution, the most important of those of European states. Special attention is given to the problems which each succeeding age was called upon to solve and to the manner in which institutions were developed with a view to their solution. In the second semester the institutions of the more important European countries are studied and compared.

Elective for juniors and seniors in the A. B. courses. Three hours weekly throughout the year.

2. **United States Government.** This course is devoted to a study of Federal Government and its operation in the United States.

Three hours weekly during the first semester.

Not given in 1922-23.

3. **State and Municipal Government.** This course is devoted to study of local governments, with particular reference to the forms existing in New York.

Three hours weekly during the year.

Not given in 1922-23.

HYGIENE AND PHYSICAL TRAINING

DR. PEARSON, LT. OLIPHANT

Lectures in hygiene, including a brief course in first aid, are given to all students twice weekly throughout the freshman year.

A physical examination of new students is made at the beginning of the year and corrective exercises are prescribed for the remedy of physical defects. Charts of the physical measurements showing the comparison of the individual with the normal development and hand books containing much valuable hygienic data are furnished upon payment of a small fee. All candidates for college teams are required to pass a satisfactory physical examination before they are allowed to compete in athletic contests.

It is the policy of the college to influence the entire student body to take an active part in athletic sports and gymnastics and

not to cater to the exceptional athlete to the exclusion of those who are physically less perfectly equipped. The aims of the system are:

Physical development of the student body.

The development of sound sportsmanship, which can best be developed through active participation.

Inculcating a desire for indulgence in physical and athletic activities.

Handling and applying the instruction material in such manner that students will have a clear conception and knowledge of the underlying principles and essentials of every activity in which they engage.

1. **Physiology and Hygiene.** Required of all freshmen except in the pre-medical course, the A. B., Ph. B., B. S., and B. E. courses. One hour weekly throughout the year.

2. **Physical Training.** Required of all freshmen. Two periods weekly throughout the year.

THE LATIN LANGUAGE AND LITERATURE

PROFESSOR KELLOGG

1. **Livy:** Selections from Books I, XXI and XXII. Roman history. **Tacitus:** Agricola and Germania. **Cicero:** De Senectute or De Amicitia or Selected Letters. Latin composition.

The work of the first year includes a thorough review of forms and syntax through oral and written prose composition and sight reading. Selections from the three great masters of Roman prose are made the basis for grammatical and literary analysis and interpretation, and also, through lectures and assigned reading, for the study of Roman history through the reign of Trajan.

Required of freshmen in the A. B. courses A, B, E. Four hours weekly throughout the year.

2. **Selections from Latin Poetry.** **Terence:** Adelphoe. **Plautus:** Menaechmi or an equivalent. **Horace:** Selected Odes and Epodes. **Catullus:** Selected poems.

Through lectures on ancient comedy and lyric, and by collateral reading, the student is made acquainted with the history

of Roman literature under the Republic and the Empire. The grammatical analysis aims to make familiar the chief characteristics of early and colloquial Latin, and the general economy of poetic diction. The literary interpretation centers chiefly around the influence of Greek life and thought on Roman literature, and the national and personal elements in Latin poetry.

Required of sophomores in the A. B. courses A, B, E. Three hours weekly throughout the year.

3. Horace (Satires and Epistles) and Juvenal. Pliny the Younger (Letters), or Martial (Epigrams) or Petronius (Trimalchio's Dinner).

This course, through lectures and assigned reading, continues the history of Roman literature under the Empire. A brief introduction to Roman archaeology (with special study of the Forum Romanum) is given and, in connection with the Pliny, an outline of the private life of the Romans.

Students able to read French or German may receive special assignments under the direction of the department.

Elective for juniors in the A. B. courses A, B, E. Three hours weekly throughout the year.

4. Lucretius: Books I, III, V and Selections, with lectures on didactic poetry, the atomic theory, and the philosophic system of Epicurus. During one semester Cicero, *De Officiis*, is read as the basis for a study of ancient Ethics.

As this course is not only for those who elect to study Roman life and literature but also for those who may desire to use Latin in teaching or as an instrument in later research work, special assignments may be given from authors or inscriptions for practice in editing, or the writing of history from the sources.

Elective for seniors in the A. B. courses A, B, E. Three hours weekly throughout the year.

5. Roman Law. When a sufficient number of seniors electing course 4 desire it, one or both semesters may be devoted to an introduction to Roman Law, based on the Institutes of Justinian, Robinson's Selections from Roman Law, and Morey's Outlines of Roman Law.

Honors. Candidates for honors in Latin must have taken all the courses offered by the department, must present a meritorious thesis, and comply with all the general regulations established for final honors.

In general, subsidiary reading is recommended. Equivalents may be substituted in the elective programme at any time, and the order of the subjects as given above may be altered in any one of the four years at the discretion of the head of the department.

MATHEMATICS

PROFESSOR GARIS, ASSOCIATE PROFESSOR ROWLAND, ASSISTANT PROFESSOR SNYDER, MR. MALE, MR. DE RONDE, MR. BENNETT, MR. BOUDREAU

1. Freshman Mathematics. This course includes solid geometry, advanced algebra, trigonometry and analytic geometry.

Required of freshmen in the B. S. in chemistry, the B. S. in physics, and in the engineering courses. Six hours weekly throughout the year.

1a. Freshman Mathematics. This course includes solid geometry, advanced algebra and trigonometry.

Required of freshmen in the A. B. and pre-medical courses. Four hours weekly throughout the year.

1b. Analytic Geometry. This course includes plane and solid analytical geometry and the more important higher plane curves.

Optional for sophomores in the A. B. courses. Three hours weekly throughout the year.

2. Differential and Integral Calculus. This course includes drill in differentiation and integration; the application of derivatives to curves; maxima and minima; the development of series; problems involving rates, curvature, surfaces and volumes; and the application of calculus to problems in mechanics and physics.

Required of sophomores in the civil engineering, electrical engineering, the B. S. in physics, and B. S. in chemistry courses. Electives for juniors in the A. B. courses. Five hours weekly throughout the year.

3. Differential Equations. The greater part of this course is given to the treatment of ordinary differential equations and their applications to geometry, electricity, physics, and mechanics. A review of the calculus, especially methods of integration, is required.

Required of juniors in the electrical engineering, the B. S. in physics, and B. S. in chemistry courses. Elective for seniors in the A. B. courses who have had course 2. Three hours weekly throughout the year.

4. Advanced Calculus. The subject matter of this course varies from year to year. At present the work is based on Wilson's Advanced Calculus.

Elective for seniors in the electrical engineering and the B. S. in chemistry courses. Three hours weekly throughout the year.

5. Graduate Course. The subject matter of this course varies from year to year. Sufficient ground is covered in three years to constitute a minor in mathematics in the requirements for the degree of Doctor of Philosophy. The two courses comprise: Infinite series and definite integrals and functions defined thereby, calculus of variations, vector analysis, functions of real and complex variables, elliptic functions and integrals, partial differential equations, Fourier series, expansion in terms of functions of Legendre, Laplace, Bessel, Lamé. The mathematical theory of electricity and magnetism is treated in considerable detail.

Three hours weekly throughout the year.

MECHANICS AND PHYSICS

Mechanics

PROFESSOR OPDYKE

1. Elementary Mechanics. This course requires a knowledge of the foundation principles of mechanics, and applies the elements of calculus to the development of theory and to the solution of problems. The course is designed for technical students. It follows the first semester of physics, and is continued in the junior year by the applied mechanics of the engineering department.

Required of sophomores in the civil, electrical, B. S. in physics, and B. S. in chemistry courses. Two hours weekly throughout the second semester.

2. Mechanics and Astronomy. This course is intended for the general student and is broader and more analytical than mechanics 1. The calculus is used throughout, and emphasis is laid on the general physical aspects of the subject.

Elective for juniors and seniors in the A. B. courses who have had or are electing mathematics 2a. Three hours weekly throughout the year.

3. Advanced Mechanics. This course requires a knowledge of differential equations and is a continuation of mechanics 2. The purpose of the course is to make a more complete study of certain parts of the subject from a mathematical and physical standpoint, particularly of certain of the mechanical and physical problems arising in the fundamental measurement of electrical quantities.

Elective for seniors in the A. B. courses who have had mathematics 3, physics 1, and mechanics 2. Three hours weekly throughout the year.

Physics

PROFESSOR WOLD, ASSOCIATE PROFESSOR KLEEMAN, MR. HYATT,
MR. ROBINSON

1. General Physics. This course presents the fundamental facts and laws of physics by means of experimental lectures, class work, and laboratory practice. The work comprises a study of the laws of motion, energy, properties of matter, wave motion, sound, light, electricity and magnetism, with particular reference to the applications of the principles studied in engineering and to the explanation of natural phenomena. In the laboratory the student is offered an opportunity to demonstrate to himself the various fundamental laws in physics, with which he has become acquainted in the corresponding lectures, and to carry out measurements of some of the important physical quantities. The laboratory work is so arranged that the student acquires considerable experience in assembling and building up apparatus.

Required of sophomores in the civil and electrical engineering courses, and in the B. S. in chemistry and the B. S. in physics courses. Elective for juniors and seniors in the A. B. courses who have had mathematics 2a. Five hours weekly during first semester and three hours weekly during second semester.

1a. General Physics. This course is similar to physics 1. It is intended to prepare the student to meet the requirements for admission to the medical department of the university.

Required of sophomores in the pre-medical course. Five hours weekly during first semester and three hours weekly during second semester.

1b. General Physics. This is a course intended for those who desire a different view into the field of physics than that usually given to engineers. It is intended especially for students in the A. B. courses who are not expecting to go extensively into scientific work, but who desire information in this fundamental science. The main facts and laws of physics are presented through demonstration lectures, class work, and laboratory work. The philosophical aspect of these facts and laws is emphasized, but at the same time sufficient attention is given to practical applications and to problem work to avoid losing the idea of the concreteness and usefulness of this branch of science.

Elective for juniors and seniors in the A. B. courses. Three hours weekly throughout the year.

2. Heat, Electricity and Magnetism. This course is a more critical study of these portions of physics than is given in physics 1. It includes the various systems of thermometry and heat measurements and the study of thermodynamics. In electricity and magnetism it includes an exposition of the fundamental theories of electrical and magnetic measurements. The theory is covered by lectures and collateral reading and in the laboratory the student acquires familiarity with the various processes and more complicated apparatus essential to the study of physical phenomena.

Required of juniors in the B. S. in physics course. Five hours weekly throughout the year.

2a. This course is the same as physics 2, except that less time is devoted to laboratory work.

Required of juniors in the B. S. in chemistry course; elective for seniors in the A. B. courses who have had physics 1 and mathematics 2a. Four hours weekly throughout the year.

3. Sound and Light. This course is a continuation of physics 2. In sound an exceptionally large variety of apparatus is available for experimental work. In light the course takes up the laws of radiation, and the study of physical optics, including polarization, spectra, wave-length measurements, etc. The course is conducted in the same way as physics 2.

Required of seniors in the B. S. in chemistry and the B. S. in physics courses; elective for seniors in the A. B. courses who have had physics 1 and mathematics 2a. Four hours weekly throughout the year.

4. Kinetic Theory and Thermodynamics. Based on the previous work on heat in course 2. This course undertakes a more comprehensive and analytical treatment of the kinetic theory of gases and of thermodynamic relations.

Required of seniors in the B. S. in physics course. Three hours weekly throughout the year.

5. Modern Physical Theories. This course is an historical review of the field of physics and a general summary of modern theories and tendencies in this field. It takes up the electromagnetic theory and the laws of radiation and finally develops the present ideas of electrons, radio activity, X-rays, etc.

Elective for seniors and for graduate students who have had the equivalent of physics 1, 2, and 3. One hour weekly throughout the year.

Not given for the year 1922-23

6. The Electron Theory. This course treats of the nature and properties of ions in gases, solids and liquids; the electronic constants; radio-active changes; the propagation of various radiations; the ionization of matter by various ionizing agents; and the electron theory of matter and of electrical conduction. Opportunity for research is provided.

Required of seniors in the B. S. in physics and the B. S. in chemistry courses; elective for graduate students and seniors who have had the necessary training in physics. One hour weekly throughout the year.

7. Vacuum Tubes and Vacuum Tube Phenomena. This course consists of a critical study of vacuum tube phenomena and is devoted mainly to the audion and audion circuits. It takes up the study of electrons and their fields of force, thermionic emission phenomena, two electrode tubes and three electrode tubes, the use of the latter as amplifiers, oscillation generators and modulators for radio and other purposes. Consideration is also given to X-ray tubes, Braun tubes, dynatrons and other tubes. Through the courtesy of the Research Laboratory of the General Electric Company exceptionally good facilities are available for experimental work.

Elective, for record, for seniors and graduate students who have had sufficient experience in physics. One lecture and one laboratory period weekly, throughout the year.

8. Physics Research. Seniors in the B. S. in physics course are required to undertake a piece of research, experimental or theoretical, of a character which not only tests their ability in such work but which gives them an insight into the methods used and the point of view maintained in scientific work of this type. They are thrown, so far as possible, on their own responsibility in looking up the literature and in carrying out the plans for their work.

Required of seniors in the B. S. in physics course. Three credit hours weekly throughout the year.

MODERN LANGUAGES

PROFESSOR BARNES, ASSISTANT PROFESSOR STEWART, ASSISTANT
PROFESSOR CROWELL, MR. TILLY, MR. JAGU, MR. MAHER

German

1. German 1. Grammar for review and reference, with exercises and drill on syntax; writing and reproduction, with colloquial practice and work in vocabulary building based on a course

in German composition. The academic divisions read and discuss works selected from the classics, from nineteenth century drama and fiction, and from historical writings. The reading in the technical divisions is for the most part given over to scientific books and periodicals.

Required of all freshmen who offer German for admission. Five hours weekly throughout the year.

2. German 2. A beginners' course in grammar, composition and reading. Easy selections in prose and poetry, historical matter, a novel and a play are read. While thorough preparation and careful drill are insisted upon throughout, the amount of reading demanded is considerable.

Optional with Spanish for sophomores in the A. B. course A; optional with French if Spanish is offered for admission, optional with Spanish if French is offered for admission, for sophomores in the A. B. courses B, C, and E, the B. S. in chemistry course, and the pre-medical course; optional with French or Spanish in the A. B. course D. Five hours weekly throughout the year.

3. German 3. Advanced composition and independent essays; newspaper reading; an intensive study of Schiller or Goethe, or a course of reading in nineteenth century drama.

Elective in continued and advanced divisions for juniors and seniors in the A. B. courses who have had one college year of German. Three hours weekly throughout the year.

4. German 4. Theme writing; history of German literature; studies in the classic period, with extended reading of selected authors.

Elective in the A. B. courses for seniors who have had German 3. Three hours weekly throughout the year.

French

5. French 1. A rapid review of the elements of grammar, and the study of syntax and composition; practice in exact translation; a range of reading designed to give a general view of the history of French literature.

Required of all freshmen who offer French for admission. Five hours weekly throughout the year.

6. **French 2.** A beginners' course in grammar, composition and reading. Easy selections in prose and poetry, historical matter, a novel and a play are read. While thorough preparation and careful drill are insisted upon throughout, the amount of reading demanded is considerable.

Required of freshmen in the A. B. course A. Optional with German if Spanish is offered for admission, optional with Spanish if German is offered for admission, for sophomores in the A. B. courses B, C, and E, the B. S. in chemistry course, and the pre-medical course; optional with German or Spanish in the A. B. course D. Five hours weekly throughout the year.

7. **French 3.** Grammar reviewed; exercises in vocabulary, idioms, and writing in connection with basic texts. This work is followed by a reading course and special studies in nineteenth century literature.

Elective in continued and advanced divisions for juniors and seniors in the A. B. courses who have had one college year of French. Three hours weekly throughout the year.

8. **French 4.** This course is devoted to the study of some of the classics of the seventeenth century. Selected works of Corneille, Racine, Molière, La Fontaine, and Bossuet are read, together with parts of Lanson's *Histoire de la Littérature Française*. One hour a week is devoted to syntax and composition.

Elective in the A. B. courses for seniors who have had French 3. Three hours weekly throughout the year.

Spanish

9. **Spanish 1.** A course in composition, involving review and continuation of grammatical study, based on narrative texts descriptive of Spain and South America. Newspapers and commercial and geographical articles are read, together with selections from classical and modern drama and recent fiction.

Required of all freshmen who offer Spanish for admission. Five hours weekly throughout the year.

10. **Spanish 2.** A beginners' course in grammar, composition, and reading. Spanish-American subjects, descriptive, commercial, and geographical, form the basis of the work. A novel and a play are also read.

Optional with German for sophomores in the A. B. course A; optional with French if German is offered for admission, optional with German if French is offered for admission, for sophomores in the A. B. courses B, C, and E, the B. S. in chemistry course, and the pre-medical course; optional with French or German in the A. B. course D. Five hours weekly throughout the year.

11. **Spanish 3.** Advanced composition and commercial correspondence; newspaper reading. A technical essay, one or more classic dramas, and a standard modern novel are read.

Elective in continued and advanced divisions for juniors and seniors in the A. B. courses who have had one college year of Spanish. Three hours weekly throughout the year.

12. **Spanish 4.** Reading of newspapers, periodicals, and commercial matter continued; a survey of the classic and nineteenth century periods in Spanish literature. Selected dramas and novels are read.

Elective in the A. B. courses for seniors who have had Spanish 3. Three hours weekly throughout the year.

PHILOSOPHY

ASSOCIATE PROFESSOR CHIDSEY

1. **History of Philosophy.** In this course students without previous acquaintance with philosophy may obtain an outline knowledge of its European history from the time of its development among the Ionic Greeks down to and including the philosophy of the post-Kantian idealists. There are two lectures and one discussion period each week, together with assignments in a text-book. Selected portions of the work of the more important philosophers are read.

Optional with mathematics, biology, and history of Greek literature for sophomores in the A. B. courses. Three hours weekly throughout the year. '

2. Problems of Philosophy. This is an elementary lecture course and gives a general survey of problems in ethics, philosophy of religion, metaphysics, and epistemology. The following topics are treated: the problem of the *summum bonum*; the problem of evil; optimism, pessimism, and meliorism; the existence of the external world; the problem of mind and body; the nature of the self and immortality; our knowledge of other minds; the traditional arguments for the existence of God; mechanism vs. teleology; theories of truth and reality. The treatment is systematic rather than historical. Students are assigned selected passages from both classical and contemporary philosophical literature. Written exercises and weekly discussions form a part of the course.

Elective for juniors and seniors in the A. B. courses. Three hours weekly throughout the year.

3a. Logic. This course is an introduction to logic and deals with the following topics: definition of logic and its relation to the other philosophical disciplines; classification and class names; ambiguity and definition; the nature and interpretation of propositions; the syllogism, causal relations; probability; circumstantial evidence; truth and its tests. There are daily discussions based upon a text-book and occasional written exercises.

Elective for juniors and seniors in the A. B. courses who have had course 1 or course 2. Three hours weekly during the first semester.

3b. Ethics. This course gives a systematic view of the moral life. It deals with such questions as the meaning of good, right and wrong, moral obligation, moral sanctions, virtue, institutional life, progress. There are daily discussions based upon a text book, written exercises, and a thesis.

Elective for juniors and seniors in the A. B. courses who have had course 1 or course 2. Three hours weekly during the second semester.

4. History and Philosophy of Education. This course is especially designed for students who intend to enter the profession of teaching. During the first semester an outline of the history of educational theory is given; during the second semester, con-

temporary works on the aims and methods of education are studied for the purpose of giving the student an opportunity to formulate his own constructive program. There are daily discussions, weekly quizzes, and occasional written reports.

Elective for juniors and seniors in the A. B. courses who have had course 1 or its equivalent. Three hours weekly throughout the year.

Offered in alternate years. Given in 1922-23.

5. Present Tendencies in Philosophy. This course gives a brief survey of current philosophy with special reference to metaphysics and epistemology. The authors read represent such modern movements as naturalism, idealism, pragmatism, instrumentalism, and realism. Discussions, required reading, and a thesis each semester.

Elective for seniors in the A. B. course who have had two full year courses in philosophy. Three hours weekly throughout the year.

PSYCHOLOGY

PROFESSOR MARCH

1. General Psychology. This course begins with the study of the elements and the simpler processes and laws of the mind, and continues with a general survey of the field of individual normal psychology.

Required of juniors in the B. S. course in chemistry. Elective for juniors in the A. B. courses. Three hours weekly throughout the year.

2. Advanced Psychology. This course includes educational psychology, comparative psychology, and social psychology, with emphasis upon psychological theory.

Elective for seniors in the A. B. courses who have had course 1. Three hours weekly throughout the year.

3. General Psychology. This course is a brief form of course 1, with emphasis upon the applications of psychology to business and employment.

Required of seniors in the civil engineering course, administrative option. Three hours weekly during the second semester.

RHETORIC AND PUBLIC SPEAKING

PROFESSOR MC KEAN

1. Sophomore Orations. The work consists of three distinct parts:

a) Formal lectures on the art of public speaking, together with abundant illustrations and class practice on the principles involved.

b) The writing of orations under individual criticism.

c) The delivery of these orations before the class, subject to further criticism for both individual and general instruction.

Supplemental to this work, still further individual criticism and instruction, based on personal needs, are given all students who enter the various contests regularly held under the auspices of the department.

Required of sophomores in the A. B., B. S. in physics, civil engineering, electrical engineering, and pre-medical courses. One hour weekly throughout the year.

2. Junior Orations. The work is like that of course 1, but of an advanced character.

Required of juniors in the A. B. civil engineering and electrical engineering courses. One hour weekly throughout the year.

3. Senior Orations. The work is like that of course 1, but of a more advanced character.

In addition, instruction is given in the principles of vocal technique as the basis for effective public speaking, and attention is given to individual defects needing correction. The object is to develop in each student the practical mastery of a well-controlled organ of oral expression. This work is graded and opportunity is afforded for supervised practice of the principles involved.

Required of seniors in the A. B. courses. One hour weekly throughout the year.

4. Argumentation and Debate. The work consists of two distinct parts:

a) The study of the theory of argumentation and debate,

based upon a text-book, and pursued by means of recitations, criticisms, discussions, and informal lectures.

b) Practice in the analysis of subjects for debates, in the preparation of briefs and arguments, and in the more formal debates of the class room.

Considerable attention is given to parliamentary law, and practice is accorded in the conduct of business sessions.

Elective for juniors in the A. B. courses. Three hours weekly throughout the year.

5. Advanced Argumentation and Debate. The work is of a more advanced character than that in course 4, and consists of class-room debates; of the discussion of such practical problems as naturally grow out of this work; and of the formal presentation of oral theses, subject to individual criticism and general discussion.

Elective for seniors in the A. B. courses who have completed course 4. Three hours weekly throughout the year.

6. Honor Course. Open to seniors who have complied with the requirements for special honors. Two hours weekly throughout the year.

SPECIAL LECTURES

It is the policy of the college to provide its students with the advantages of frequent lectures by specialists in the various departments of knowledge.

In endowing the Ichabod Spencer Professorship in Philosophy, Mrs. Katherine Spencer Leavitt set aside the sum of \$25,000 to establish a lectureship in memory of her father, the Reverend Ichabod Spencer, D. D., of the class of 1822, to be known as the Ichabod Spencer Lectureship in Psychology. These lectures are given by distinguished scholars in this department and are open to the public.

A series of lectures is given by the President of the College for the junior and senior classes. This course is open to the public.

Special lectures are given by well known men in connection with the various departments of instruction, as described on pages 49-97.

LIBRARY

The library occupies Nott Memorial Hall. It contains sixty thousand volumes, and includes the engineering and scientific library of the late Professor Gillespie, the collection of mathematical works made by the late John Patterson, of Albany; the library of the late Hon. Henry J. Cullen, of the class of 1860; the library of ancient and classical languages and literatures of the late Professor Tayler Lewis; the libraries of classical literature of Professor Bennett and Professor Ashmore; and the Bailey collection of American wit and humor. Additions are made yearly. The income from a bequest of five thousand dollars left by the late Lemon Thomson, Esq., of Albany, of the class of 1850, is devoted to the purchase of books on American subjects, especially history and political science. By the will of the late Rev. Oscar Blakeslee Hitchcock, of the class of 1852, a bequest of upwards of thirty thousand dollars was left to the college for the purchase of books, manuscripts, etc. The Alumni Association has established the Henry Whitehouse Fund, the income of which is used for the purchase of books in Latin and Greek. A most important accession is the Croes Engineering Library, the gift of Mr. Edgar Beach Van Winkle, of the class of 1860, for the use of the engineering department of the college. The library is classified according to the Dewey decimal system and a dictionary card catalogue, on the Dewey plan, is available.

Many periodicals and the transactions of many learned societies are received.

Library Rules

Hours: 8 A. M. to 6 P. M. and 7:30-10 P. M., from Monday to Friday; 8 A. M. to 6 P. M. on Saturday, 2 to 6 P. M. on Sunday.

The library is open during vacation at hours to be announced.

Loan of books: Reference, Cullen and valuable books and bound periodicals are not loaned.

Reserved books may be borrowed over night, i. e., from 10 P. M. to 8 A. M. There is a fine of twenty-five cents per day or part of a day for each reserved book overdue.

All other books may be borrowed for a period of two weeks, and may be renewed, unless called for. A fine of five cents per

day is charged for all books overdue, and all library privileges are withdrawn until the book is returned and the fine paid.

THE NATURAL HISTORY MUSEUM

PROFESSOR STOLLER, CURATOR

The Wheatley collection of minerals, presented to the college in 1858, by E. C. Delavan, Esq., contains 4,000 specimens, many of which represent the more valuable forms. This collection has recently been carefully inspected by Dr. D. S. Martin of New York city. All of the specimens have been re-identified and the entire collection has been re-arranged and placed in order for exhibition and for study.

In geology there is a general collection of rocks and minerals, and a considerable collection of the paleozoic rocks and fossils of the New York formations.

In zoology the collection of mounted birds numbers 311 specimens, representing 161 species of the bird fauna of the eastern United States. These have recently been carefully inspected, and re-labelled. Fishes, amphibia and reptiles, especially of the local fauna, are represented by specimens in alcohol. In the department of invertebrates the collections of marine animals made by Dr. Harrison E. Webster are extensive, including sponges, corals, worms, crustacea and mollusks, the total number of species represented being over 5,000. The Wheatley collection of shells, presented by E. C. Delavan, Esq., consists of 8,000 specimens.

The botanical collections include a nearly complete set of local flowering plants, the work of Professor Jonathan Pearson. To this there has since been added a complete set of the ferns and fern allies of Schenectady county. The herbarium also includes a considerable number of foreign plants, including representative collections from Germany, Spain, Asia Minor and England, as well as some specimens from Iceland, Norway, France and Switzerland. They have been sorted and distributed in a single series following the latest accepted sequence, that of Engler and Prantl's *Natürliche Pflanzenfamilien*, making the entire collection of some 8,000 or 10,000 specimens readily accessible for reference and study.

The museum is open to the public on Wednesday afternoon

and Saturday morning. Visitors may be admitted at other times by making application to the college librarian.

THE LITERARY SOCIETIES

The Philomathean Society, founded in 1793, about two years prior to the founding of the college, and the Adelphe Society, founded in 1796, invite to membership all students specially interested in debating. The societies hold frequent meetings during the autumn and winter months for the discussion of current, social and political questions. A joint debate is held in December in competition for the Allison-Foote prizes, page 132.

RELIGIOUS LIFE

The Young Men's Christian Association of the college, which has its headquarters in Silliman hall, has general charge of the religious life under the supervision of members of the faculty. Silliman Hall is well adapted to the purposes and activities of the association, with its large public rooms on the first floor, and the rooms which are used for meetings of various kinds on the second floor. The association maintains a reading room, and the building is open throughout the day for the convenience of the undergraduates who wish to make use of its rooms for study.

Under the auspices of the association, vesper services are held Sunday afternoons throughout the college year, at which members of the faculty connected with the college and undergraduates of the upper classes deliver addresses. The association provides for Bible and mission study classes, coöperates with the office of the registrar of the College in the operation of an employment bureau and works in conjunction with the Industrial Service Department of the General Electric and American Locomotive Companies and with the city Y. M. C. A. in providing teachers for the classes which those organizations conduct among the foreign element of the city.

From time to time, during the college year, the association gives receptions and entertainments for the college classes.

SUMMARY OF COURSES

The numeral after a subject refers to the course as described in the departmental statement; the number in parenthesis refers to the page where the statement is given. The hours show the credit assigned each subject.

A. B. Course A

The full entrance requirement in Greek is required for admission to this course

Freshman Year

First Semester

Greek 1a	(78)	3 hours
Latin 1	(83)	4 hours
French 2	(92)	5 hours
English 1	(74)	3 hours
Mathematics 1a	(85)	4 hours
Physiology and Hygiene	(83)	1 hour

Total 20 hours

Second Semester

Studies of first semester continued

One credit hour throughout the year is required in Gymnastics

A course of instruction in the use of the Library is given to freshmen.

Sophomore Year

First Semester

Greek 2a	(78)	3 hours
Latin 2	(83)	3 hours
English 2	(75)	3 hours
German 2	(91)	5 hours
or		
Spanish 2	(93)	5 hours
Mathematics 1b	(85)	3 hours
or		
General Science 2	(77)	3 hours
Rhetoric 1	(96)	1 hour

Total 18 hours

Second Semester

Studies of the first semester continued

Junior Year

First Semester

Rhetoric 2	(96)	1 hour
Electives	(107)	15 hours

Total 16 hours

Second Semester

Studies of the first semester continued

Senior Year*First Semester*

Rhetoric 3.....	(97)	1 hour
Electives.....	(107)	15 hours

Total 16 hours

Second Semester

Studies of first semester continued

A. B. Course B

Greek is not required for admission to this course

Freshman Year*First Semester*

Greek 1b	(78)	3 hours
Latin 1	(83)	4 hours
French 1.....	(91)	5 hours
or		
German 1	(90)	5 hours
or		
Spanish 1	(92)	5 hours
English 1	(74)	3 hours
Mathematics 1a.....	(85)	4 hours
Physiology and Hygiene.....	(83)	1 hour

Total 20 hours

Second Semester

Studies of first semester continued

One credit hour throughout the year is required in Gymnastics

A course of instruction in the use of the Library is given to freshmen.

Sophomore Year*First Semester*

Greek 2b	(79)	3 hours
Latin 2	(83)	3 hours
English 2	(75)	3 hours
French 2.....	(92)	5 hours
or		
German 2.....	(91)	5 hours
or		
Spanish 2	(93)	5 hours

Mathematics 1b	(85)	3 hours
or		
General Science 2	(77)	3 hours
Rhetoric 1	(96)	1 hour
Total		18 hours

Second Semester

Studies of first semester continued

Junior Year*First Semester*

Rhetoric 2	(96)	1 hour
Electives	(107)	15 hours
Total		16 hours

Second Semester

Studies of first semester continued

Senior Year*First Semester*

Rhetoric 3	(96)	1 hour
Electives	(107)	15 hours
Total		16 hours

Second Semester

Studies of first semester continued

A. B. Course C**Freshman Year***First Semester*

French 1	(91)	5 hours
or		
German 1	(90)	5 hours
or		
Spanish 1	(92)	5 hours
English 1	(74)	3 hours
Mathematics 1a	(85)	4 hours
History 1	(79)	3 hours
General Science 1	(77)	3 hours
Physiology and Hygiene	(83)	1 hour
Total		19 hours

Second Semester

Studies of first semester continued

One credit hour throughout the year is required in Gymnastics

A course of instruction in the use of the Library is given to freshmen.

Sophomore Year*First Semester*

French 2.....	(92)	5 hours
or		
German 2.....	(91)	5 hours
or		
Spanish 2.....	(93)	5 hours
English 2.....	(75)	3 hours
History 2.....	(80)	3 hours
Mathematics 1b.....	(85)	3 hours
or		
History of Philosophy.....	(93)	3 hours
or		
History of Greek Literature, Greek 5.....	(79)	3 hours
or		
Biology 1.....	(49)	3 hours
Chemistry 1.....	(51)	3 hours
Rhetoric 1.....	(96)	1 hour

 Total 18 hours
Second Semester

Studies of first semester continued

Junior Year*First Semester*

Rhetoric 2.....	(96)	1 hour
Electives.....	(107)	15 hours

 Total 16 hours
Second Semester

Studies of first semester continued

Senior Year*First Semester*

Rhetoric 3.....	(96)	1 hour
Electives.....	(107)	15 hours

 Total 16 hours
Second Semester

Studies of first semester continued

A. B. Course D**Freshman Year***First Semester*

Latin 1.....	(83)	4 hours
English 1.....	(74)	3 hours
Mathematics 1a.....	(85)	4 hours

General Science 1	(77)	3 hours
History 1	(79)	3 hours
Physiology and Hygiene	(83)	1 hour

Total 18 hours

Second Semester

Studies of first semester continued

One credit hour throughout the year is required in Gymnastics

A course of instruction in the use of the Library is given to freshmen.

Sophomore Year

First Semester

French 2	(92)	5 hours
or		
German 2	(91)	5 hours
or		
Spanish 2	(93)	5 hours
English 2	(75)	3 hours
History 2	(80)	3 hours
Mathematics 1b	(85)	3 hours
or		
History of Philosophy 1	(93)	3 hours
or		
History of Greek Literature, Greek 5	(79)	3 hours
Chemistry 1	(51)	3 hours
Rhetoric 1	(96)	1 hour

Total 18 hours

Second Semester

Studies of first semester continued

Junior Year

First Semester

Rhetoric 2	(96)	1 hour
Electives	(107)	15 hours

Total 16 hours

Second Semester

Studies of first semester continued

Senior Year

First Semester

Rhetoric 3	(96)	1 hour
Electives	(107)	15 hours

Total 16 hours

Second Semester

Studies of first semester continued

A. B. Course E**Freshman Year***First Semester*

Latin 1.....	(83)	4 hours
French 1.....	(91)	5 hours
or		
German 1.....	(90)	5 hours
or		
Spanish 1.....	(92)	5 hours
English 1.....	(74)	3 hours
Mathematics 1a.....	(85)	4 hours
History 1.....	(79)	3 hours
Physiology and Hygiene.....	(83)	1 hour

*Second Semester***Total 20 hours****Studies of first semester continued**

One credit hour throughout the year is required in Gymnastics

A course of instruction in the use of the Library is given to freshmen.

Sophomore Year*First Semester*

Latin 2.....	(83)	3 hours
French 2.....	(92)	5 hours
or		
German 2.....	(91)	5 hours
or		
Spanish 2.....	(93)	5 hours
English 2.....	(75)	3 hours
History 2.....	(80)	3 hours
Mathematics 1b.....	(85)	3 hours
or		
History of Philosophy 1.....	(93)	3 hours
or		
History of Greek Literature, Greek 5.....	(79)	3 hours
Rhetoric 1.....	(96)	1 hour

Total 18 hours*Second Semester***Studies of first semester continued****Junior Year***First Semester*

Rhetoric 2.....	(96)	1 hour
Electives.....	(107)	15 hours

Total 16 hours*Second Semester***Studies of first semester continued**

Senior Year

First Semester

Rhetoric 3.....	(96)	1 hour
Electives.....	(107)	15 hours
		Total 16 hours

Second Semester

Studies of first semester continued

List of Electives for Juniors and Seniors in the A. B. Courses

An elective for which there is an insufficient number of candidates may be withdrawn at the discretion of the department.

Five electives and rhetoric are required.

Each junior is required to choose as one elective, to be continued for two years, a subject previously pursued in college.

Each senior is required to continue, in addition to the elective named in his junior year for continuation, one other junior elective.

The head of a department may direct the choice of electives in other departments, for honor students, to the number of six hours in each year.

Any student in the A. B. course may become a candidate for the degree of Bachelor of Science by making application to the dean of students before the beginning of his junior year. He must then elect not less than three courses in science and mathematics during his junior and senior year.

Junior Electives

Argumentation.....	3 hours
The Bible.....	3 hours
Biology.....	3 hours
Chemistry.....	3 hours
Economics.....	3 hours
English.....	3 hours
French.....	3 hours
Geology (General)...	3 hours
German.....	3 hours
Greek.....	3 hours
History.....	3 hours
Latin.....	3 hours
Logic.....	3 hours
Mathematics.....	3 hours
Mechanics.....	3 hours
Philosophy.....	3 hours
Physics.....	3 hours
Psychology.....	3 hours
Spanish.....	3 hours

Senior Electives

Argumentation (Adv'd)	3 hours
The Bible.....	3 hours
Biology.....	3 hours
Chemistry.....	3 hours
Economics (Advanced).	3 hours
English.....	3 hours
Ethics.....	3 hours
French.....	3 hours
Geology (General)...	3 hours
German.....	3 hours
Greek.....	3 hours
History.....	3 hours
History of Education. .	3 hours
International Law.....	3 hours
Latin.....	3 hours
Mathematics.....	3 hours
Mechanics.....	3 hours
Philosophy (Advanced)	3 hours
Psychology (Advanced)	3 hours
Physics.....	3 hours
Spanish.....	3 hours

Civil Engineering Course

Freshman Year

First Semester

French I.....	(91)	5 hours
or		
German I.....	(90)	5 hours
or		
Spanish I.....	(92)	5 hours
English I.....	(74)	3 hours
Engineering Drawing GE1.....	(59)	3 hours
Mathematics I.....	(85)	6 hours
Physiology and Hygiene.....	(83)	1 hour
Lectures GE6.....	(60)	2 hours

Total 20 hours

Second Semester

French I.....	(91)	5 hours
or		
German I.....	(90)	5 hours
or		
Spanish I.....	(92)	5 hours
English I.....	(74)	3 hours
Engineering Drawing GE2.....	(59)	2 hours
Mathematics I.....	(85)	6 hours
Surveying GE4.....	(60)	3 hours
Physiology and Hygiene.....	(83)	1 hour

Total 20 hours

One credit hour throughout the year is required in Gymnastics

A course of instruction in the use of the Library is given to freshmen.

Surveying, 15 days, required of all engineering students at the close of their freshman year. G.E.5.

Sophomore Year

First Semester

Mathematics 2.....	(85)	5 hours
Physics I.....	(87)	5 hours
Chemistry I.....	(51)	3 hours
History 6.....	(81)	2 hours
English 3.....	(75)	2 hours
Elementary Machine Design GE7.....	(61)	2 hours
Public Speaking. I.....	(96)	1 hour

Total 20 hours

Second Semester

Mathematics 2.....	(85)	5 hours
Mechanics 1.....	(86)	2 hours
Physics 1.....	(87)	3 hours
Chemistry 1.....	(51)	3 hours
History 6.....	(81)	2 hours
English 3.....	(75)	2 hours
Public Speaking 1	(96)	1 hour
Lectures GE 8.....	(60)	2 hours

 Total 20 hours
Junior Year, Technical Option*First Semester*

Railway and Highway Engineering CE9	(61)	3 hours
Machine Design CE10	(61)	3 hours
Applied Mechanics ME1.....	(69)	4 hours
Electrical Engineering EE5	(71)	3 hours
Geology 4	(78)	3 hours
Economics 3	(66)	3 hours
Public Speaking 2	(96)	1 hour

 Total 20 hours
Second Semester

Mechanics of Materials CE14.....	(62)	4 hours
Electrical Engineering EE6	(71)	3 hours
Thermodynamics ME6	(70)	2 hours
Theory of Elasticity CE13	(62)	3 hours
Accounting CE16	(62)	2 hours
Hydraulics CE12.....	(62)	4 hours
Public Speaking 2	(96)	1 hour
Testing Laboratory CE15	(62)	1 hour

 Total 20 hours
Senior Year, Technical Option*First Semester*

Railway Engineering CE17	(63)	2 hours
Structural Engineering CE18	(63)	4 hours
Structural Design CE19	(63)	2 hours
Business Law CE20	(63)	3 hours
Hydraulic Engineering CE21	(63)	3 hours
Heat Engineering CE23	(64)	3 hours
Finance and Banking CE22	(64)	3 hours

 Total 20 hours

Second Semester

Reinforced Concrete CE25	(64)	3 hours
Structural Design CE27	(65)	1 hour
Contracts and Specifications CE28	(65)	2 hours
Sanitary Engineering CE29	(65)	3 hours
Advanced Structures CE26.....	(65)	4 hours
Heat Engineering CE24	(64)	3 hours
Business Administration CE30	(65)	3 hours

 Total 19 hours
Junior Year, Administrative Option*First Semester*

Machine Design CE10	(61)	3 hours
Electrical Engineering EE5	(71)	3 hours
Applied Mechanics ME1.....	(69)	4 hours
Economics 2	(66)	3 hours
Geology 4	(78)	3 hours
History 2	(80)	3 hours

 Total 19 hours
Second Semester

Mechanics of Materials CE14.....	(62)	4 hours
Electrical Engineering CE26	(65)	3 hours
Thermodynamics ME6.....	(70)	2 hours
Testing Laboratory CE15	(62)	1 hour
Accounting CE16	(62)	2 hours
Hydraulics CE12.....	(62)	4 hours
History 2	(80)	3 hours

 Total 19 hours
Senior Year, Administrative Option*First Semester*

Structural Engineering CE18	(63)	4 hours
Structural Design CE19	(63)	2 hours
Business Law CE20	(63)	3 hours
Electrical Engineering EE7	(71)	3 hours
Heat Engineering CE23	(64)	3 hours
Finance and Banking CE22	(64)	3 hours
Public Speaking 2	(96)	1 hour

 Total 19 hours

Second Semester

Advanced Structural CE26	(65)	4 hours
Psychology 3	(95)	3 hours
Contracts and Specifications CE28	(65)	2 hours
Electrical Engineering EE8	(71)	3 hours
Heat Engineering CE24	(64)	3 hours
Business Administration CE30	(65)	3 hours
Public Speaking 3	(96)	1 hour

 Total 19 hours
Electrical Engineering Course**Freshman Year***First Semester*

French I.....	(91)	5 hours
or		
German I.....	(90)	5 hours
or		
Spanish I.....	(92)	5 hours
English I.....	(74)	3 hours
Engineering Drawing GE1.....	(67)	3 hours
Mathematics I.....	(85)	6 hours
Physiology and Hygiene.....	(83)	1 hour
Lectures GE6.....	(69)	2 hours

 Total 20 hours
Second Semester

French I.....	(91)	5 hours
or		
German I.....	(90)	5 hours
or		
Spanish I.....	(92)	5 hours
English I.....	(74)	3 hours
Engineering Drawing GE2.....	(67)	2 hours
Mathematics I.....	(85)	6 hours
Surveying GE4.....	(68)	3 hours
Physiology and Hygiene.....	(83)	1 hour

 Total 20 hours

One credit hour throughout the year is required in Gymnastics

A course of instruction in the use of the Library is given to freshmen.

Surveying, 15 days, required of all engineering students at the close of their freshman year.

Sophomore Year*First Semester*

Mathematics 2.....	(85)	5 hours
Physics 1.....	(87)	5 hours
Chemistry 1.....	(51)	3 hours
History 6.....	(81)	2 hours
English 3.....	(75)	2 hours
Elementary Machine Design GE7.....	(69)	2 hours
Public Speaking 1.....	(96)	1 hour

 Total 20 hours
Second Semester

Mathematics 2.....	(85)	5 hours
Mechanics 1.....	(86)	2 hours
Physics 1.....	(87)	3 hours
Chemistry 1.....	(51)	3 hours
History 6.....	(81)	2 hours
English 3.....	(75)	2 hours
Public Speaking 1.....	(96)	1 hour
Lectures GE8.....	(69)	2 hours

 Total 20 hours
Junior Year*First Semester*

Advanced Mechanics ME1.....	(69)	4 hours
Electrical Engineering Theory EE1.....	(70)	3 hours
Electrical Engineering Laboratory EE21.....	(71)	4 hours
Mathematics 3.....	(86)	3 hours
Hydraulics CE11.....	(61)	3 hours
Public Speaking 2.....	(96)	1 hour

 Total 18 hours
Second Semester

Advanced Mechanics ME2.....	(70)	5 hours
Electrical Engineering Theory EE2.....	(70)	3 hours
Electrical Engineering Laboratory EE22.....	(72)	4 hours
Mathematics 3.....	(86)	3 hours
Public Speaking 2.....	(96)	1 hour

 Total 16 hours

Senior Year*First Semester*

Thermodynamics ME3.....	(70)	3 hours
Electrical Engineering Theory EE3.....	(70)	3 hours
Electrical Engineering Laboratory EE23.....	(72)	4 hours
Economics 2.....	(66)	3 hours
Electives.....	(107)	3 hours
Seminar EE13.....	(71)	1 hour

Total 17 hours

Second Semester

Thermodynamics ME4.....	(70)	3 hours
Electrical Engineering Theory EE4.....	(71)	3 hours
Electrical Engineering Laboratory EE24.....	(72)	4 hours
Electrical Apparatus Design EE34.....	(72)	3 hours
Electives.....	(107)	3 hours
Seminar EE14.....	(71)	1 hour

Total 17 hours

B. S. in Chemistry Course**Freshman Year***First Semester*

Mathematics I.....	(85)	6 hours
Drawing GE3.....	(59)	2 hours
Chemistry 1b, 2, 3, 4.....	(51, 52, 53)	3 hours
French I.....	(91)	5 hours
or		
German I.....	(90)	5 hours
or		
Spanish I.....	(92)	5 hours
English I.....	(74)	3 hours
Physiology and Hygiene.....	(83)	1 hour

Total 20 hours

Second Semester

Studies of first semester continued

One credit hour throughout the year is required in Gymnastics

A course of instruction in the use of the Library is given to freshmen.

Sophomore Year*First Semester*

Physics I.....	(87)	5 hours
Mathematics 2.....	(85)	5 hours

French 2.....	(92)	5 hours
or		
German 2.....	(91)	5 hours
or		
Spanish 2.....	(93)	5 hours
History 6.....	(81)	2 hours
Chemistry 2, 3, 4.....	(52, 53)	4 hours
		Total 21 hours

Second Semester

Studies of first semester continued

Junior Year*First Semester*

Mechanics ME1.....	(69)	4 hours
Mathematics 3.....	(86)	3 hours
Biology 4.....	(50)	3 hours
Physics 2.....	(88)	3 hours
Psychology 1.....	(95)	3 hours
Chemistry 5.....	(54)	4 hours
		Total 20 hours

Second Semester

Mechanics ME2.....	(70)	5 hours
Mathematics 3.....	(86)	3 hours
Physics 2.....	(88)	4 hours
Psychology 1.....	(95)	3 hours
Chemistry 5.....	(54)	5 hours
		Total 20 hours

Senior Year*First Semester*

Physics 3.....	(89)	4 hours
Economics 1.....	(66)	3 hours
Mathematics 4.....	(86)	3 hours
or		
Geology 4.....	(78)	3 hours
Chemistry 5.....	(54)	5 hours
Modern Physical Theories, Physics 4.....	(89)	1 hour
Research, Chemistry 6.....	(56)	3 hours
		Total 19 hours

Second Semester

Physics 3.....	(89)	4 hours
Economics 1.....	(66)	3 hours

Mathematics 4.....	(86)	3 hours
or		
Geology 4.....	(78)	3 hours
Chemistry 5.....	(54)	5 hours
Electron Theory, Physics 5.....	(89)	1 hour
Research, Chemistry 6	(56)	3 hours
Total		19 hours

B. S. in Physics Course

Freshman Year

First Semester

French I.....	(91)	5 hours
or		
German I.....	(90)	5 hours
or		
Spanish I.....	(92)	5 hours
English I.....	(74)	3 hours
Engineering Drawing GE1.....	(59)	3 hours
Mathematics I.....	(85)	6 hours
Physiology and Hygiene.....	(83)	1 hour
Lectures GE6.....	(60)	2 hours
Total		20 hours

Second Semester

French I.....	(91)	5 hours
or		
German I.....	(90)	5 hours
or		
Spanish I.....	(92)	5 hours
English I.....	(74)	3 hours
Engineering Drawing GE2.....	(59)	2 hours
Mathematics I.....	(85)	6 hours
Surveying GE4.....	(60)	3 hours
Physiology and Hygiene.....	(83)	1 hour
Total		20 hours

One credit hour throughout the year is required in Gymnastics

A course of instruction in the use of the Library is given to freshmen.

Surveying, 15 days, required of all engineering students at the close of their freshman year. G.E.5.

Sophomore Year

First Semester

Mathematics 2.....	(85)	5	hours
Physics 1.....	(87)	5	hours
Chemistry 1.....	(51)	3	hours
History 6.....	(81)	2	hours
English 3.....	(75)	2	hours
Elementary Machine Design GE7.....	(61)	2	hours
Public Speaking 1.....	(96)	1	hour
		Total	20 hours

Second Semester

Mathematics 2.....	(85)	5	hours
Mechanics 1.....	(86)	2	hours
Physics 1.....	(87)	3	hours
Chemistry 1.....	(51)	3	hours
History 6.....	(81)	2	hours
English 3.....	(75)	2	hours
Public Speaking 1.....	(96)	1	hour
Lectures GE8.....	(60)	2	hours
		Total	20 hours

Junior Year

First Semester

Mathematics 3.....	(86)	3	hours
Chemistry.....	(52)	4	hours
Physics 2.....	(88)	5	hours
Mechanics ME1.....	(69)	4	hours
Elective.....	(107)	3	hours
Rhetoric 2.....	(96)	1	hour
		Total	20 hours

Second Semester

Mathematics 3.....	(86)	3	hours
Chemistry 4b.....	(54)	4	hours
Physics 2.....	(88)	5	hours
Biology 5.....	(50)	3	hours
Elective.....	(107)	3	hours
Rhetoric 2.....	(96)	1	hour
		Total	19 hours

Senior Year

First Semester

Mathematics 4.....	(86)	3	hours
Chemistry.....	(53)	4	hours
Physics 3.....	(89)	3	hours
Thermodynamics 4.....	(89)	3	hours
Physics Research 8.....	(89)	4	hours
Elective.....	(107)	3	hours
		Total	20 hours

Second Semester

Mathematics 4.....	(86)	3 hours
Chemistry.....	(54)	4 hours
Physics 3.....	(89)	4 hours
Thermodynamics 4.....	(89)	3 hours
Physics Research 8.....	(89)	3 hours
Elective.....	(107)	3 hours

 Total 20 hours
Pre-Medical Course**Freshman Year***First Semester*

Biology 1.....	(49)	4 hours
Chemistry 1a.....	(51)	5 hours
French 1.....	(91)	5 hours
or		
German 1.....	(90)	5 hours
or		
Spanish 1.....	(92)	5 hours
Mathematics 1a.....	(85)	4 hours
English 1.....	(74)	3 hours

 Total 21 hours
Second Semester

Studies of first semester continued

One credit hour throughout the year is required in Gymnastics

A course of instruction in the use of the Library is given to freshmen.

Sophomore Year*First Semester*

Biology 2.....	(50)	4 hours
Chemistry 3a, 4.....	(52, 53)	4 hours
Physics 1a.....	(88)	4 hours
French 2.....	(92)	5 hours
or		
German 2.....	(91)	5 hours
or		
Spanish 2.....	(93)	5 hours
English 2.....	(75)	3 hours
Rhetoric 1.....	(96)	1 hour

 Total 21 hours
Second Semester

Studies of first semester continued

ATTENDANCE AND STANDING

Registration. Every student must report at the registrar's office at the beginning of each semester and register his college or local address.

Any change of residence during the semester must be reported at once at the registrar's office.

Changes of Course. Students are not permitted to pass from one course to another, or to take any studies out of their regular order, without the specific authorization of the dean of students.

Chapel. Morning worship is held in the chapel every college day and attendance is required of all students.

Reports. A daily record of scholarship and of attendance at class and chapel is kept and a report is sent at the close of each semester to the student's parent or guardian.

Standing. There are four grades of scholarship:—from 9 to 10 inclusive, first grade; from 8 to 8.9, second grade; from 7 to 7.9, third grade; from 6 to 6.9, fourth grade.

A student who receives a mark of 4 to 5.9 is reported as conditioned; below 4, as having failed.

A student who is reported as having failed in any subject must take that subject again in class; or he may be required to make up the subject under an approved tutor, in such manner as the dean of students, after consultation with the department, may designate, and to pass an examination in it at the second conditions examination after the imposition of the mark of failure.

Students of exceptional standing in scholarship, not exceeding ten in number, are eligible for selection by the faculty for stage appointments at graduation.

Credits. A credit is the valuation of each semester hour of work according to the mark gained. Each semester hour of "first grade" work counts five credits; of "second grade" work, three credits; of "third grade" work, two credits; of "fourth grade" work one credit.

The index number for any student is obtained by dividing his total number of credits by his total semester hours.

To remain in college a student must obtain for each semester

a number of credits equal to 1.5 times the total number of his semester hours. Fifty per cent of the work of each student must average a third grade to establish the minimum number of credits for any semester.

In determining credits, one credit will be added for each ten points between grades.

In exceptional cases, such as protracted illness, a student who by removing conditions is able to obtain the minimum number of credits may be placed on probation for a semester.

Scholarly Honors. At the end of each semester scholarly honors are awarded formally to students in each course who attain an average first grade in all subjects on their schedules, provided that no subject fall below a second grade.

Absences in General. Absences are entered against a student from the beginning of a semester until he reports his return to the registrar.

It is expected that for consecutive absences permission will be obtained in advance.

Permissions and excuses are given only by the dean of students.

Application must be made not later than the first Monday following the date of the absence.

Class-room Absences. Attendance at all exercises is required and it is expected that no student will be absent except in case of unavoidable necessity.

No excuse remits any college work. The work lost by reason of excused absence must be made up in a manner satisfactory to the head of the department concerned, unless the nature of the work renders this impossible, in which case the student's grade will suffer.

After a number of unexcused absences in excess of one week of recitations in any subject, or after a number of unexcused and excused absences in excess of two weeks of recitations in any subject, a student is not allowed to continue his work in that subject but must take it with the succeeding class.

In exceptional cases a student may be reinstated in any subject on permission of the dean of students.

Each absence from class on days immediately preceding or

following a recess and each participation in any concerted class absence ("bolt") is counted as one week's absence.

Holders of scholarly honors are exempt from the above rules on absences.

Chapel Absences. Eighteen absences without excuse are allowed each semester. All absences after the first eighteen lower the standing at the rate of one unit for every two absences.

No absences are excused except for protracted illness or for reasons in every way exceptional.

Applications for excuse from chapel for a semester must be made to the dean of students within the first two weeks of that semester.

In the determination of a student's general standing, marks for chapel attendance are counted as the equivalent of a one hour per week recitation. They affect the granting of scholarships and the selection of honor men.

Conditions. If entrance conditions are allowed, they must be made up promptly at the time appointed. Students who have any entrance conditions remaining after the April examinations, are classed as irregular students. Those who fail to remove all entrance conditions before the beginning of the next college year will not be admitted to any of the work of that year. No student who has any conditions unsatisfied at the close of the conditions examinations in September at the opening of the college year, is permitted to continue with his class without the express authorization of the dean of students.

Conditions not removed at the next conditions examination held after their imposition must be made up in class at the first opportunity, and this work takes precedence of the regular work in case of conflict in the schedule. No senior who has failed to make up all his back work by the end of the first semester of senior year can be recommended for a degree.

Examinations for the removal of conditions occur on the Saturday next preceding the opening of the first semester, and in April, on dates indicated in the college calendar. Registration for these examinations closes at 12 M. on the Saturday next preceding the date set for each. A fee for each examination to

be taken must be paid at the time of registration, at the registrar's office.

Students who have been excused by the dean of students from any semester examination are reported "Not examined" and may be examined later, at a time to be approved by the instructor, but such examination cannot be postponed beyond the first conditions examinations after such report. A failure to pass is regarded as a condition and must be made up at the next following conditions examination.

Unless excused by the dean of students, students absent from semester examinations are reported as "Not sustained," or "Failed."

Absence from any appointed examination is regarded as a failure, unless previously excused.

Irregular Students. Students who are seriously deficient in standing may be dropped to a lower class, or, if the deficiency is such as to leave a prospect of regaining class standing, may be rated as irregular students. Irregular students have no class relation or class privilege; they are debarred from competition for prizes and from the attainment of special honors.

The evidence that a student's continuance in college is resulting in no advantage to himself, or in harm to others, will occasion his separation from the institution.

EXPENSES

Registration fee	\$ 5.00
Total charge, A. B. courses, per year.....	150.00
Total charge, all other courses, per year.....	250.00
Graduation fee, including diploma.....	15.00
Room rent in dormitories, per year.....	\$80 to 100.00
Conditions examination fee.....	2.00
Extension courses, each subject.....	15.00
Graduate courses in engineering and chemistry, per year..	100.00

In the course leading to the degree of Doctor of Philosophy the maximum payment is \$300 if the degree be earned in five years from the time of registration.

One-half of the total charge is due in advance on the first day of each semester. Freshmen who pay by check must present certified or cashier's check, or New York draft. *No bills are sent.*

In addition to the total charge for the first semester a fee for gymnastic equipment for intramural work is required of each freshman at the time of registration. In 1922-1923 this fee was ten dollars.

Students must conform to the rules of the treasurer's office regarding registration at the opening of each semester, and are not admitted to any classes or laboratories until the total charge is paid. An extra fee is imposed for late registration.

No deductions are made because of absence from college.

No part of a semester bill is refunded for any cause.

Damage done by students to college property is charged to their account.

No degree, certificate, or dismissal is given to any student until his bills are paid.

Board can be procured for \$6 to \$7 a week.

Books and instruments cost from \$30 to \$60 per year.

It is the custom of the student body to levy an annual tax of \$35.00, of which one-half is payable at the time of registration for the first semester and one-half at the time of registration for the second semester. This money is used for the support of the different branches of athletics and other college activities.

College Rooms

The college has three steam-heated dormitories. Most of the rooms are arranged in suites of two; they are rented at prices varying from \$80.00 to \$100.00 per year unfurnished for each student occupying a room. A limited number only are furnished. Students about to enter college who wish rooms in the dormitories should make application to the assistant treasurer by August 20 of the year in which they wish to enter for a list of rooms with location and price. No room is secured until a lease is signed and filed in the college office; a deposit of \$10.00 is required when the lease is filed and this deposit is not returnable unless the lease is cancelled by September 1. A student must occupy the room for which he signs, as transfers are not allowed. The rooms are cared for by competent persons, employed and paid by the college; each occupant of a college room is held responsible for any damage done to the room. At the end of the college year students giving up their rooms for any reason whatsoever are required to remove all furniture and property from their rooms not later than the Saturday following commencement day, as after this time the dormitories will be closed until the Saturday before the first registration day of the fall semester. The dormitories are also closed during the Christmas recess.

Students leaving property in their rooms during the vacations do so at their own risk.

Students are required to room in the college dormitories, or if no college rooms are available, in places approved by the college. A list of such rooms may be found at the college office. Students who live at home or with relatives, or who are provided with a room in a private house in return for services rendered are excused from this rule.

Employment Bureau

The registrar's office conducts a bureau with the object of aiding students who desire employment for the purpose of meeting the expenses of a college education. Applications from intending entrants for the assistance of the bureau should be addressed to the secretary of the college.

SCHOLARSHIPS

Funds given especially for this purpose enable the college to offer aid to a number of students each year, as follows:

General Scholarships. General scholarships are available for students in the non-technical courses.

Scholarships covering a part of the tuition charges are granted to students upon the following conditions:

1. The declaration of a purpose to remain in Union College until graduation
2. An acknowledgment that the aid received is regarded as a debt of honor, to be paid as soon as possible after leaving college
3. The presentation of satisfactory evidence of financial need

Scholarship aid is withdrawn temporarily upon the failure of the student to be sustained in any subject, or upon his failure to maintain an average grade of eighty per cent. in the studies of any semester, and after it has been withdrawn for two successive semesters it is not renewed.

Any serious breach of college discipline, evidence of moral delinquency, or repeated unnecessary expenditures will also result in the withdrawal of scholarship aid.

Credentials necessary for admission to another college will not be given to any scholarship student until he has repaid to the college treasury the full amount of scholarship aid received.

Application blanks will be provided by the secretary upon request.

John David Wolfe Memorial Scholarships. The income of a fund of fifty thousand dollars established by the generosity of Miss Catharine Lorillard Wolfe is designed to aid students from the southern states.

These scholarships are available for students in all courses and are governed by the conditions named above.

Application blanks will be provided by the secretary upon request.

Levi Parsons Scholarships. A generous benefaction by the late

Hon Levi Parsons, of Gloversville, N. Y., maintains several scholarships in each class, yielding one hundred and fifty dollars a year each.

Among applicants, preference is given :

First, to blood relatives of the founder, bearing his name and living in the county of Fulton, Montgomery or Hamilton, in the State of New York, and especially to those bearing his name and living in Gloversville or Johnstown, Fulton county.

Second, to applicants living in the following places, according to the following order :

1. The city of Gloversville, Fulton county
2. The city of Johnstown
3. The township of Johnstown
4. The county of Fulton
5. The adjoining counties of Montgomery and Hamilton
6. The blood relatives living in any other part of the United States

Nomination to scholarships is made by the board of directors of the Gloversville Free Library; and the nominees must satisfy the college requirements for admission. Applications are received by the directors of the Gloversville Free Library, Gloversville.

The continuance of these scholarships is subject to the rules stated on page 124 concerning the withdrawal of the general Scholarships of the college.

Thomas Armstrong Scholarships. The late Thomas Armstrong, of Plattsburg, N. Y., provided for the grant of five scholarships to residents of Clinton county, sons of practical farmers.

Nominations to these scholarships are made by the board of supervisors of Clinton county, and the yearly value of each scholarship is not to exceed two hundred dollars.

R. C. Alexander Prize Scholarship. The sum of four thousand dollars has been given in memory of the late Robert Carter Alexander, of the class of 1880, and a life trustee of the College, to be devoted to the establishment of a scholarship for the encouragement of classical studies.

The income of this fund, amounting to two hundred dollars

per year, is awarded as a prize scholarship, upon the following conditions:

1. Candidates must be students in the classical course, and of approved moral character.

2. They must be free from conditions and must have obtained an average of at least eighty per cent. in the studies of the first semester of the freshman year.

3. They must pass successfully a special examination at the close of the freshman year in each of the following subjects: Latin, Greek, mathematics, English composition, and either French or German, or Spanish. These examinations will be based upon the work of the freshman year.

4. The award will be made to the candidate obtaining the highest general average in these examinations and in all the previous work of the college course.

5. The prize scholarship will be forfeited upon evidence of moral delinquency, or upon failure to maintain an average grade of ninety per cent. in the work of any subsequent term. The scholarship, once lost, cannot be regained, but will be awarded, upon the above conditions, to a student in the next entering class.

6. All questions pertaining to the administration of this scholarship will be determined by a committee composed of the president of the college, the chairman of the scholarship committee of the faculty, and a member of the board of trustees.

Horace B. Silliman Scholarships. Three scholarships were founded by the late Horace B. Silliman, of the class of 1846, giving to each recipient the income from two thousand dollars annually.

These scholarships are awarded to active members of the college Young Men's Christian Association by a committee composed of the president, the dean of the faculty, and the president of the Young Men's Christian Association, under such rules and conditions as may be determined by such committee, preference being given to students in the classical course.

The award is made to one student annually at the close of the freshman year.

Daniel F. Pullman Scholarship. The late Daniel F. Pullman, of Knox, Albany county, New York, provided in his will for the establishment of a scholarship of the value of \$120 a year, to be given to a student in the classical course.

The award is made by the faculty, and in accordance with the terms of the will preference is given to members of the Methodist Episcopal Church.

Alumni Scholarships. Application for appointment to these scholarships must be made before September 1. The conditions with respect to college standing governing the award and retention of the general scholarships of the college apply to these scholarships also.

Class of 1895 Scholarship. A fund has been given by the class of 1895 which provides for the grant of a scholarship of a yearly value not to exceed one hundred dollars. The award is made by the faculty and, in accordance with the wish of the donors, preference will be given to descendants of members of the class.

Genesee Valley Scholarship. The Alumni Association of the Genesee Valley generously offers a scholarship to residents of towns included in the active membership of the association. Candidates should make application to the secretary of the Alumni Association.

Daniel Vedder Scholarship. By the will of the late Daniel Vedder, of Schenectady, a scholarship has been established, of the annual value of two hundred dollars.

The scholarship is awarded by the faculty, and is given to a student who is preparing to enter the Christian ministry.

The holder must maintain an average standing of ninety per cent., and must pledge himself to abstain from the use of intoxicating liquors and tobacco.

If none of the candidates meets in every respect the conditions stated in the will of the donor, the scholarship will be awarded in such a way as to carry out as fully as possible the wishes of the founder.

The award is made at the end of the freshman year.

Ichabod Spencer Scholarship Fund. This fund is to be used for general scholarship aid, was established by Mrs. Catherine Spencer Leavitt in memory of her father, the Rev. Ichabod Spencer of the class of 1822. The proceeds are used at the discretion of the trustees to aid worthy students in securing an education at Union College.

Law School Scholarships. Applicants for these scholarships, described below, must register with the dean of the faculty by May 15 of senior year.

John K. Porter Memorial Scholarships. A fund given by Mrs. John K. Porter, in memory of her husband, is designed to assist students who, after graduating from college, pursue the study of law. The fund provides, at present, for three scholarships of ninety dollars each. The awards are made at commencement to seniors chosen by the faculty.

Gilbert M. Spier Memorial Scholarship. A fund given by Mrs. Glover C. Arnold, in memory of her father, the late Judge Gilbert M. Spier, provides another scholarship for students of law who go from Union College to the Albany Law School, another department of Union University. The sum of ninety dollars is awarded at commencement to the senior chosen by the faculty, the choice being made on the basis of excellence in historical studies.

William C. Saxton Scholarships. By the will of Anna C. Saxton the sum of ten thousand dollars was bequeathed to Union College for the purpose of founding the William C. Saxton Fund. This fund provides for the payment of the tuition of one student in each of the three classes in the Albany Law School. These students must be graduates of Union College and are appointed, one each year, by the faculty of Union College.

Chester C. Thorne Scholarship. The late Rev. Chester C. Thorne, of the class of 1857, has endowed a scholarship of the annual value of two hundred dollars. The scholarship will be awarded to a student in one of the academic courses at the end of his junior year; it is given on the basis of character and financial need and is awarded by the faculty.

The tenure of the scholarship is subject to the general scholarship rules of the college as published in the annual catalogue.

General Electric Company Scholarships. The General Electric Company has made provision for three scholarships, nominations to which are made by the company. One incumbent will be named each year until three scholarships are in effect. The scholarships are intended primarily for the encouragement of electrical engineering studies, but the company may appoint students in any course. The scholarships provide for tuition fees.

American Locomotive Company Scholarship. The American Locomotive Company has provided a fund the income from which is used for one or for two scholarships, as the company may decide. Nominations for the award of these scholarships are made by the company on the basis of the grade of work done by the candidate in school or in college. The scholarships are open to students in any course, but will be awarded only to such candidates as are sons of employees of the company.

Cornelia Veeder Scholarship. By the will of Miss Cornelia Veeder, the sum of four thousand dollars is given to Union College, the income "to be expended annually in the support and education of some poor and worthy student in said college." The award is made by the faculty.

The tenure of the scholarship is subject to the general scholarship rules of the college as published in the annual catalogue.

William L. Oswald Scholarship. A fund of five thousand dollars is provided by the will of William L. Oswald, the income from which is to be applied to "the support and education of a young man of proper character and habits for the duties and calling of a minister of the Gospel, a candidate of suitable qualifications residing in Watervliet, N. Y., to be preferred." The award is made by the faculty.

The tenure of the scholarship is subject to the general scholarship rules of the college as published in the annual catalogue.

Fuller Medical Scholarships. The late Dr. Robert M. Fuller of Schenectady bequeathed a fund to the college, the income of which is divided into ten scholarships, awarded to students in

the Albany Medical College who have taken their pre-medical courses in Union College. By the terms of the bequest, the committee of award consists of the President, the Dean of the Faculty of Union College, and the Dean of the Albany Medical College. These scholarships are given to those students who have shown, while in Union College, general mental and physical fitness for the work of the medical profession, and who have excelled in chemistry courses.

Five of the scholarships are reserved for those students who, at the time of entering the Medical College, have received or are candidates for a bachelor's degree from Union College, and preference will be given to such students in all awards on this foundation. Five may be awarded to students who have completed the two years pre-medical course.

The Charles B. McMurray Scholarship. A fund of \$5,000 has been given by Mr. Charles B. McMurray, a trustee of the College, the income of which is to be granted to a student in any of the four-year courses (or the pre-medical course) at Union College, on condition of his meeting the requirements made by the College for its general scholarships.

In awarding this scholarship preference is given first, to candidates having been graduated from the Lansingburgh High School; second, to candidates living in the city of Troy, New York; and third, to candidates living in Rensselaer County, New York.

Cady Staley Loan Fund for Students. To aid students who have not sufficient money to pay their college expenses, this fund is to be used to pay the college tuition fees, and the student is to give a promissory note, which he agrees to pay when he gets out in the world of work, and is able to earn the money. Only those who have been in college long enough to be approved by the president may draw from this fund.

PRIZES

The following prizes are awarded from funds given especially for this purpose:

Blatchford Oratorical Medals. The Hon. Richard M. Blatchford, LL. D., of New York city, founded oratorical prizes, consisting of two gold medals of the value of the interest on \$1,000, which are given to the two members of the graduating class who deliver at commencement the best orations, "regard being had alike to their elevated and classical character and to their graceful and effective delivery." These medals are awarded by a committee appointed by the trustees, and are presented at the close of the exercises.

Warner Prize. The Hon. Horatio G. Warner, LL. D., of Rochester, N. Y., founded an annual prize to be presented at commencement to the "graduate of Union College, classical or Latin-scientific course, who shall reach the highest standing in the performance of collegiate duties, and also sustain the best character for moral rectitude and deportment, without regard to religious practice or profession." The prize is a silver cup and is awarded by the faculty.

Ingham Prize. The Hon. Albert C. Ingham, LL. D., of Meridian, N. Y., founded an annual prize of the interest of \$1,000 (in the form of plate, or medal, or money, or both medal and money, as preferred), to be awarded at commencement to that senior connected with the college for not less than two years who shall offer the best essay on one of two assigned subjects in English literature or history.

The essay must be typewritten, and must contain not less than 4,000 nor more than 4,500 words. Its signature (fictitious) and the writer's real name must be enclosed in a sealed envelope; the signature and the name of the prize being given on the outside. The essay, with the note, must be presented by noon on the first day of May.

Allen Essay Prizes. The Hon. William F. Allen, LL. D., of Oswego, N. Y., established a fund of \$1,000, the interest of which

is devoted to prizes for the best three essays on any subject, submitted by members of the senior class.

The essay must be typewritten, and must contain not less than 2,500 nor more than 3,000 words, and must be signed and presented (with note, as in the case of the Ingham essay) by noon on May 1st. The prizes are awarded at commencement.

Oratorical Prizes. Prizes are presented at commencement to the two juniors and the two sophomores who deliver the orations best in composition and delivery on the occasion of prize speaking in commencement week. Four juniors and four sophomores are selected for this competition by a committee of the faculty on the fifteenth of April. Candidates must be in full standing on appearance before the committee.

Allison-Foote Prizes. Mr. George F. Allison, of New York city, and the late Wallace T. Foote, of Port Henry, N. Y., founded a prize for the encouragement of debate in the literary societies. The prize consists of \$100 in cash, and is awarded as the result of a public competition between representatives of the Adelpic and Philomathean Literary Societies. Fifty dollars is awarded to the society presenting the strongest argument. The remaining \$50 is awarded to the debater who makes the best single speech, regardless of his society relations. Contestants must have engaged in at least ten debates in their respective societies during the college year immediately preceding. All further details are left to the determination of a committee, consisting of the president, the dean of the faculty, and the professor of rhetoric.

Goodrich-Duane Prizes. Two prizes, of \$30 and \$20, are awarded to the best speakers in an extemporaneous debate held in commencement week in each year. A general topic is previously announced, and the particular subject of debate is given on the evening of the contest. The competition is open to students of all classes.

The first prize is given by Mr. James A. Goodrich, of the class of 1879, and the second prize by Dr. Alexander Duane, of the class of 1878.

Daggett Prize. In 1899 Miss E. Josephine Daggett bequeathed

to Union College, the sum of \$1,000, the interest of which is devoted to a prize for conduct and character, without respect to scholarship, to be given at Commencement to a senior who shall have passed through a full course of four years at the college.

Bailey Prize. A silver cup, of the value of \$50, has been offered by Dr. Frank Bailey, to be awarded annually to that member of the senior class who has rendered the greatest service to the college in any field. In awarding this prize, consideration is given to any effort resulting in conspicuous improvement in the conduct of athletic sports or in the character of undergraduate publications; in the increase of college enthusiasm or the elevation of the tone of college life; in the advancement of the interests of the college among preparatory schools or in the community as a whole; or in any addition to those things which bring honor to the name of Union.

Pullman Prizes. Mr. Daniel F. Pullman, of Knox, Albany County, New York, bequeathed to Union College the sum of \$2,000 to found two annual prizes.

The Pullman Classical Prize. This prize of \$40 is given to that member of the Methodist Episcopal Church in the graduating class who, in an attendance of three years, has attained the highest standing in scholarship in the classical course.

The Pullman Engineering Prize. This prize of \$40 is given to that member of the graduating class who has taken the full course in the engineering department and who has attained the highest standing in that course, preference being given to members of the Methodist Episcopal Church.

Van Orden Prize. The Van Orden Prize was founded in 1911 by the late Wessel Ten Broeck Van Orden in memory of his uncle, Wessel Ten Broeck Van Orden, of the class of 1839. It is awarded annually to a member of the freshman class for excellence in English composition. The basis of the award is the class work in rhetoric and composition, and a special essay. The essays are based upon certain works of English literature, the titles of which are announced early in the fall. The prize is the interest on \$1,000, and is awarded partly in books and partly in money.

Freling H. Smith Prize in History. Mr. Freling H. Smith, of the class of 1865, has founded an annual prize of fifty dollars in the department of history. The prize is awarded at commencement and is open to seniors who are qualified to take special honors in history. The award is based upon a thesis written under the direction of the department of history. Candidates must register with the head of the department not later than November 1.

Underclass Debate Prize. A prize of \$10 is awarded to the member of either debating team in the Sophomore-Freshman debate who makes the best single speech, regardless of class victory.

Ernst J. Berg Scholarship Cup. A silver cup is offered by Dr. Ernst J. Berg, to be awarded at the opening of the fall term, to that fraternity or like organization whose scholarship during the preceding year was highest.

Fuller Prizes in Chemistry. In 1914 Dr. Robert M. Fuller, of Schenectady, N. Y., founded two prizes, consisting of a silver, and a gold medal, of the value of twenty dollars and thirty dollars respectively. These medals are awarded annually; the silver medal to that member of the sophomore class whose work of the first two years in the department of chemistry has given the greatest promise of a successful career in that subject; the gold medal to that member of the senior class whose standing in the department has been of high grade, and who has shown the most ability in original experimental work. The medals are awarded by a committee composed of the president, the professor of chemistry, and one other member of the faculty appointed by the president.

Gilbert-Cook Poetry Prize. This prize was founded in 1920 by Mr. William Morris Gilbert, Jr., of the class of 1917, and Mr. Harold Lewis Cook, of the class of 1918, and is awarded annually to the student submitting the best poem. The following conditions were prescribed by the donors: The competition is open to all undergraduates, but no competitor may submit more than five poems; poems shall be of at least three and of not more than

three hundred lines; "didactic" or "inspirational" verse is barred; the judges shall give equal consideration to poetic feeling and poetic form; the judges are Professors Hale, March, and Chase; in case any one of the professors named be unable to serve, the donors reserve the right to name his successor. Poems must be handed in not later than May 1st. Each poem must be signed by a pseudonym and accompanied by an envelope containing the writer's name and his pseudonym. The prize consists of twenty-five dollars in cash.

Sternfeld Philosophical Prize. In 1920 Mrs. Bertha Hymes Sternfeld of Albany, N. Y., established a fund of \$1000, the interest of which is devoted to an annual prize for the best original essay in philosophy. The gift is in memory of Mrs. Sternfeld's son, Milton Hymes Sternfeld, of the class of 1916.

All students who by the beginning of their senior year have credit for two semesters of high grade work in philosophy, are declared by the head of the department of philosophy eligible to compete. The essay must be typewritten, contain not less than 3000 nor more than 5000 words, and be presented by noon on May 1st. Essays offered in the regular courses of the department are admissible. The winner is selected by a committee appointed by the president of the college, and the prize is awarded at Commencement.

When there are no students eligible to compete or when the judges find no essay worthy of the prize, the income for the year is used to purchase books for the department of philosophy.

Archibald High Scholarship Prize. By the terms of the gift, this is known as the Archibald High Scholarship Prize, a fund established by the Reverend Andrew W. Archibald, D. D., of the class of 1872. The annual net income from the fund, given in bonds of the par value of \$1500.00, is awarded each year to that member of the graduating class who has attained the highest standing in the classical course.

DEGREES AND HONORS

The candidate for a degree must have paid all dues to the college treasurer, and returned all books borrowed from the college library; he must also attend the conferring of degrees, or be expressly excused therefrom. The candidate for a bachelor's degree must have entered college not later than the beginning of the first semester of senior year.

Degrees for Resident Study

The degrees of the college are conferred by authority of the board of trustees upon candidates who have successfully completed courses of resident study, as follows:

The Bachelor's Degree. The degree of Bachelor of Arts (A. B.) is conferred upon candidates who have successfully completed Course 1, A or B, page 31, the degree of Bachelor of Science (B. S.), for members of the classes of 1923, 1924, upon those who have successfully completed Course 1, C, D, or E, page 31; the degree of Bachelor of Science in Civil Engineering (B. S. in C. E.), upon those who have successfully completed Course 2, page 31; the degree of Bachelor of Science in Electrical Engineering (B. S. in E. E.), upon those who have successfully completed Course 3, page 32; the degree of Bachelor of Science in Chemistry (B. S. in Ch.), upon those who have successfully completed Course 4, page 32; the degree of Bachelor of Science in Physics, upon those who have successfully completed Course 5, page 32.

BEGINNING WITH THE CLASS OF 1925 the degree of Bachelor of Arts (A.B.) will be conferred on all candidates who successfully complete one of the academic courses, save as special application and elections are made for the B.S. degree, as explained on pages 31 and 107.

The Master's Degree. The degree of Master of Science in Civil Engineering (M. S. in C. E.) is conferred upon candidates who have successfully completed Course 7, first division, page 32; the degree of Master of Science in Electrical Engineering (M. S. in E. E.), upon those who have successfully com-

pleted Course 7, second division, page 32; the degree of Master of Science in Chemistry (M. S. in Ch.), upon those who have successfully completed Course 7, third division, page 32.

The Doctor's Degree. The degree of Doctor of Philosophy (Ph. D.) is conferred upon students of electrical science who fulfill the requirements stated on pages 73-74.

Professional Degree

The following degree may be conferred upon graduates of Union College who meet the requirements specified below:

Engineering Degree. Graduates of Union College in the course in electrical engineering may become candidates for the degree of Electrical Engineer (E. E.).

The candidate, after the completion of his undergraduate course, must have been engaged for at least three years in professional engineering work of a high order and in positions favorable to the acquisition of valuable engineering experience and to the development of professional ability and judgment.

If the candidate's professional experience is found adequate in character and amount, he is required to submit a satisfactory thesis on an approved subject embodying a contribution by himself to engineering knowledge or literature.

If the thesis is found satisfactory the candidate may be called before an examining committee selected by the department and must then satisfy the committee that his training, experience, judgment, and ability are such as to warrant the conferring of the degree.

If, in the opinion of the head of the department, the candidate has satisfactorily met the above requirements he may be recommended for his degree, to be conferred by the trustees at the following commencement.

The diploma fee for this degree is \$10.

Honors

All commencement prizes are limited to students who have entered at or before the beginning of the senior year, and who are in full standing at the close of the first semester;

and to engineering students entered likewise and in full standing at the close of the first semester, in both the engineering course and the English department of the B. S. courses.

Commencement Appointments. These honors may be assigned to ten seniors, as stated under Standing, page 118. Provisional appointments are made at the close of the first semester of senior year, and become final if those who receive them retain the same relative rank to the end of their course. Under present regulations, no other person can become competitor for the Blatchford Oratorical Medals.

Seniors not in full standing at the close of the first semester are ineligible to a Commencement appointment.

Students who receive Commencement appointments as the result of the second semester's work are excused from speaking unless the faculty direct otherwise.

The Valedictory. This honor is awarded to the senior of highest standing among the ten receiving Commencement appointments.

Special Honors. Special honors are also given at graduation under the following conditions: Any department may offer a course, approved by the voting faculty, leading to special honors. The head of a department may direct the choice of electives in other departments, for honor students, to the number of six hours in each year. The time of registration for honors will be determined separately for each department. The candidate for special honors must have attained in all the studies of the department in which he tries for honors a rank of not less than ninety per cent. of the maximum. The evidence that he has successfully completed the extra course prescribed for him must be submitted not later than June 1st of the senior year to the faculty, who shall decide in each case whether the work is worthy of an honor. The honors attained are stated in the diploma, and the names of the students who take honors are printed on the Commencement programme. No student may try for honors in more than two departments.

Scholarly Honors. These honors, bearing the names of promi-

nent scholars, associated with Union College, as given below, are awarded in accordance with the rule stated on page 119.

Academic Courses, A and B..... Tayler Lewis Honor
 Academic Courses, C, D, and E.... Lewis Henry Morgan Honor
 Civil Engineering Course..... Frederick R. Hassler Honor
 Electrical Engineering Course..... Joseph Henry Honor
 P. S. in Chemistry Course..... Charles F. Chandler Honor
 Pre-Medical Course..... Joseph Price Honor

Phi Beta Kappa. At the beginning of the second semester of the senior year, one-third of the members of the graduating class in the classical course, candidates for the degree of Bachelor of Arts, may be elected to membership in the Phi Beta Kappa society. The election is based upon scholarship and character and is given, as a rule, to the men who stand highest in scholarship in their class.

The Alpha of New York chapter was established in 1817; and ever since that time election to the society has been one of the highest distinctions to be gained by scholarship.

Sigma Xi. Election to the honorary scientific society of Sigma Xi is one of the honors open to seniors of marked ability in the scientific and engineering departments. Membership is confined to the faculty, graduate students, senior candidates for graduation, and alumni. The election occurs during the latter part of the senior year and selections are made on the basis of high general scientific or engineering ability and particularly as a mark of promise of ability in research and independent work.

The society was founded at Cornell University in 1886 and has chapters at thirty-seven leading colleges, universities and research institutions of the country. The Union chapter was established in 1887, since which time about one hundred members have been elected by this chapter.

DEGREES CONFERRED
AT THE
ONE HUNDRED AND TWENTY-SIXTH ANNUAL
COMMENCEMENT

JUNE 12, 1922

Honorary

LL. D.

William Sowden Sims.....Newport, R. I.
 Livingston Farrand Ithaca
 Owen D. Young New York City

D. D.

David James Orland, Cal.
 John McNab Trenton, N. J.
 David Howard Craver Auburn

L. H. D.

Alfred Pomeroy Botsford Woodbury, N. J.

Sc. D.

Charles Hamilton Ashton Lawrence, Kansas

M. A.

George Frederick Genung Sunderland, Mass.
 Ralph Chandler Parker Annapolis, Md.
 Fenwick Milford Thebo San Francisco, Cal.
 Clarence Valentine Kirby Harrisburg, Pa.
 Charles Hodge Blaine Boston, Mass.

In Course

C. E.

Neil Dutton Hyde Buffalo

M. S. in C. E.

Thomas Sherwood Bailey	Schenectady
Arthur Rablen	Albany
Henry Albert Schaufler	Schenectady
William LeRoy Warner	Schenectady

B. S.

Max Michael Simon	Poughkeepsie
(As of the Class of 1921)	

Class of 1922**A. B.**

Hartzell Palmer Angell	Schenectady
Harold Isaac Blessing	Schenectady
Harold David Freedman	Springfield, Mass.
John Elder Harvey	Schenectady
John Howarth Young	Schenectady

Ph. B.

Ernest Bradford Augur	Hartwick
Nathan Hale	Schenectady
John Harris Murray, 3rd	Waverly

B. S.

Eugene Bowman Barrett	Pine Plains
Robert Eglinton Barron	Schenectady
James Lewis Bolton	Beacon
Leo Henry Bombard	Fort Edward
Hugh Cady Campfield	Washington, D. C.
Allan Landon Cass	Albany
Ralph Kingsley Chase	Schenectady
Richard Rush Church, Jr.	Afton
Timothy Francis Cohan	Amsterdam
Orrin Penfield Dales	Schenectady

Roderick Davies, Jr.	Loudonville
William Rufus Dodge	Schenectady
Francis Edward Drohan	Schenectady
Robert Roy Faust	Schenectady
Alan Currie Ferguson	Schenectady
Casmir Alexander Frantzke	Schenectady
George Calvin Gates	Watertown
William Joseph Gottsegen	Schenectady
Edward Becker Horning	Fultonville
Edward Everett Houck	Ballston Lake
Graham Bruner Jeffrey	Albany
Henry Russell Kelly	South Schenectady
Frank Pauley Knack	Gloversville
James Hutchins La Pan	Saranac Lake
David Leonard Lieberman	Brooklyn
Isadore Linsey	Schenectady
Charles Theodore Locke	Ticonderoga
William Gerald Lucas	Gloversville
Leland William Mosher	Northville
Walter Charles Mott	Schenectady
William George Mulvey	North Troy
Leon Samuel Nie	Schenectady
Willard Francis Prior	Hillsdale
William Lee Richards	Glens Falls
Louis James Rinaldi	Schenectady
Charles Warren Ring	Pleasant Brook
Victor Hermann Scales	Glens Falls
Irving Schwartz	Poughkeepsie
Eugene Francis Sullivan	Fulton
Arthur James Townley	Schenectady
Benno James Troidle	Albany
Archibald McIntyre Veghte	Johnstown
Alfred Mace Wade	Albany
George Dean Waterman	Little Falls

B. S. in C. E.

James Willard Blewer	Albany
Francis John Campbell	Schenectady

John Pratt Ensign	Cambridge
Charles Peter Gade	Altamont
Laurence John Griswold	Herkimer
Hilton Hubbell Harris	Schenectady
Ernest Smith Humphreys, Jr.	La Grange, Ill.
Carlton B. Jansen	Fonda
James Robert Kelsey	Portland, Me.
Nathan Krause	Schenectady
Harold Hall McQueen	Amsterdam
David Miller, Jr.	Schenectady
Herbert William Reutershan	Sag Harbor
Thomas Wilgus Reynolds	Amsterdam
Frederick Adam Roser	Herkimer
James Darius Royce	Palmer, Mass.
Henry Samuel Scherer	Mt. Vernon
Roland Earl Schermerhorn	Schenectady
Richard Eugene Van Ness	Cobleskill
Henry Phillips Wiencke	Schenectady

B. S. in E. E.

Milton Jacob Ackerman	St. Johnsville
Harold Griswold Beebe	Cutchogue
Anthony Patrick Joseph Boudreau	Schenectady
Lawrence Seward Bourst	Ballston Spa
Harry Maxwell Bricks	Skillman, N. J.
Josiah Prema Das	India
George Alexander Davidson	Bryan, Texas
Raymond Thomas Flemming	Johnstown
Harold Pyne Fraser	Johnstown
Walter Anthony Haberbusch	Gloversville
Reginald Bruce Hanford	Washington, D. C.
Edward Garrison Haven	Saugerfield
Linn Milton Jones	Bloomville
Frank James Moles	Schenectady
Merton David Morse	Denver
Anthony James Palermo	Schenectady

Louis Parillo	Schenectady
Domingo Santa-Maria Sanchez	Santiago, Chile
George Joseph Smith	Watertown
Joseph Fernandes Tude	Bahia, Brazil
Spencer Kellogg Warnick, Jr.	Amsterdam
Herman Ferdinand Yotz	Otego

B. S. in Ch.

Charles Ernest Beedleson	Schenectady
Ronald Lewis Johnston	Schenectady
Frederick Morris Klein	Schenectady
Stanley Owen Morgan	Schenectady
Arthur Winston Taber	Schenectady
Harold Isaac Thorp	Shelburne, Vt.

AWARDS 1922

Commencement Appointments

Anthony Patrick Joseph Boudreau	Schenectady
Harold Isaac Blessing	Schenectady
Edward Becker Horning	Fultonville
Richard Eugene Van Ness	Cobleskill
Ralph Kingsley Chase	Schenectady
James Robert Kelsey	Portland, Me.

Commencement Orators

Ralph Kingsley Chase	Perspective
Richard Eugene Van Ness....	The Scope of Modern Engineering
Edward Becker Horning	A Reign of Law
Anthony Patrick Joseph Boudreau,	
	Valedictory—A Faithful Servant

Valedictory

Anthony Patrick Joseph Boudreau

Prizes

Blatchford Oratorical Medals. 1st, Anthony Patrick Joseph Boudreau; 2nd, Edward Becker Horning.

Warner Prize. Harold Isaac Blessing.

Ingham Prize. Ralph Kingsley Chase.

Allen Essay Prize. Ernest Bradford Augur.

Prizes for Oratory. Junior, Edward Hubert Cashion, Geoffrey Arthur Mott Smith; Sophomores, John Stothoff Badeau, Oswald David Heck.

Allison-Foote Prizes. Won by the Adelphic Society and Timothy Francis Cohan.

Goodrich-Duane Prize. Harold Isaac Blessing, Leon Wono Brown.

Daggett Prize. Hugh Cady Campfield.

Bailey Prize. Louis James Rinaldi.

Pullman Classical Prize. Not awarded.

Pullman Engineering Prize. Anthony Patrick Joseph Boudreau.

Van Orden Prize. Leon Wono Brown.

Freling H. Smith Prize. Edward Becker Horning.

Ernst J. Berg Prize. Alpha Gamma Phi.

Ernst J. Berg Seminar Prize. Anthony Patrick Joseph Boudreau, Edward Garrison Haven.

Fuller Prizes. Gold Medal, Frederick Morris Klein; Silver Medal, Neil Bailey Reynolds.

Donald A. Coulter Memorial Cup. The Freshman Class.

Donald A. Coulter Memorial Prize. Leon Wono Brown.

Sternfeld Philosophical Prize. Ernest Bradford Augur.

Gilbert-Cook Poetry Prize. Ralph Kingsley Chase.

John K. Porter Memorial Scholarships. Harold Isaac Blessing, Timothy Francis Cohan, Edward Becker Horning.

Spier Memorial Scholarship. Louis James Rinaldi.

Saxton Memorial Scholarship. Eugene Francis Sullivan, John Michael Reynolds.

Archibald High Scholarship Prize. Not awarded.

Chester C. Thorne Scholarship. John Richard Bauchelle.

Cornelia Veeder Scholarship. Bruce King MacLaury.

Scholarly Honors, 1st Semester:

Harold I. Blessing, '22..... Tayler Lewis Honor
 Ralph K. Chase, '22..... Lewis Henry Morgan Honor
 Edward B. Horning, '22.... Lewis Henry Morgan Honor
 Domingo Santa Maria Sanchez, '22

Joseph Henry Honor
 John R. Bauchelle, '23..... Tayler Lewis Honor
 William R. G. Duane, '23..... Tayler Lewis Honor
 Edward N. Hooker, '23..... Tayler Lewis Honor
 Bruce K. MacLaury, '23..... Tayler Lewis Honor
 Samuel B. Fortenbaugh, '23. Lewis Henry Morgan Honor
 Edmund B. Naylor, '23.... Lewis Henry Morgan Honor
 Anthony Hoadley, '23..... Frederick R. Hasler Honor
 Dimitri G. Trone, '23..... Joseph Henry Honor
 Morris Marshall Cohn, '24..... Tayler Lewis Honor
 David McC. DeForest, '25..... Tayler Lewis Honor

Scholarly Honors, 2nd Semester :

Francis Edward Drohan, '22

Lewis Henry Morgan Honor

Hugh Cady Campfield, '22...Lewis Henry Morgan Honor

Edward B. Horning, '22....Lewis Henry Morgan Honor

Domingo Santa Maria Sanchez, '22.Joseph Henry Honor

Ralph K. Chase, '22.....Lewis Henry Morgan Honor

Anthony Patrick Joseph Boudreau, '22

Joseph Henry Honor

John R. Bauchelle, '23.....Tayler Lewis Honor

Samuel B. Fortenbaugh, '23

Lewis Henry Morgan Honor

Edmund B. Naylon, '23....Lewis Henry Morgan Honor

Charles F. Kellers, '23.....Joseph Henry Honor

Dimitri Trone, '23.....Joseph Henry Honor

Anthony Hoadley, '23.....Frederick R. Hasler Honor

Harold N. Rowe, '23.....Charles F. Chandler Honor

Edward H. Hooker, '23.....Tayler Lewis Honor

Bruce K. MacLaury, '23.....Tayler Lewis Honor

M. Marshall Cohn, '24.....Tayler Lewis Honor

Douglass Small, '24.....Lewis Henry Morgan Honor

David M. DeForrest, '25...Lewis Henry Morgan Honor

Philip A. Ryan, '25.....Lewis Henry Morgan Honor

Samuel G. Deiratani, '25.....Joseph Henry Honor

Phi Beta Kappa

No awards

Sigma Xi*Associate Members*

Anthony Patrick Joseph Boudreau	Edward Garrison Haven
Linn Milton Jones	Frederick Morris Klein
Stanley Owen Morgan	Richard Eugene Van Ness
Spencer Kellogg Warner, Jr.	Harold Niles Rowe

Full Members

Ernest Smith Humphreys, Jr.	William LeRoy Warner
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EXTENSION COURSES

NOT CREDITED TOWARD ANY DEGREE

These courses are given in co-operation with the Educational Committees of the General Electric Company and the American Locomotive Company, and are open to employees of the companies and to the general public. Proper high school or technical preparation is required for admission. Each course consists of thirty lessons. The classes meet once each week during the course. Certificates are given for the satisfactory completion of a course.

The following courses are offered, and given in each case when the demand is sufficient:

Mathematics:

Algebra, Analytical Geometry.....	Mondays
Trigonometry and Calculus.....	Tuesdays
Differential Equations	Wednesdays

Modern Languages:

French (Elementary)	Mondays
French (Continued, Intermediate).....	Tuesdays
German (Scientific)	Fridays

Public Speaking

.....Mondays

Chemistry, Physics, Geology.....

.....Tuesdays

English, Economics

.....Wednesdays

Psychology, Philosophy

.....Thursdays

Electrical Engineering (Elementary, Advanced).....

.....Thursdays

Civil and Mechanical Engineering:

Mechanics

.....Mondays

Steam Power

.....Wednesdays

Reinforced Concrete

.....Thursdays

Machine Design, Locomotive Design.....

.....Thursdays

Drafting.....

.....Wednesdays and Fridays

Physiology:

Anatomy and Physiology.....

.....Fridays

Hygiene

.....Wednesdays

American Government

.....Fridays

Courses for Bible Workers....

.....Mondays, Wednesdays and Fridays

ALBANY MEDICAL COLLEGE

The Albany Medical College was organized in 1838 and incorporated in 1839, in which year its first class was graduated. Pursuant to the Act of Incorporation of Union University in 1873, Union College (Schenectady), the Albany Medical College, Albany Law School, Dudley Observatory and later the Albany College of Pharmacy, united in constituting Union University. Each institution, retaining its own property, was separately managed by its own Board of Trustees. To meet modern requirements for university control and in order to effectuate the provision that the Albany Medical College was the Medical Department of the University, its Trustees in 1915 appointed an Executive Committee of thirteen to control the educational policy of the Medical School, nine members of which are Governors of Union University. Also upon request of the Trustees of the Medical College the Governors of Union University have appointed a similar committee identical in personnel.

The Albany Medical College has the scientific and clinical direction of major and minor services of the Albany Hospital by reason of the fact that the heads of clinical and laboratory departments of the medical school are the heads of corresponding departments in the hospital and its dispensaries.

The Executive Faculty is composed of the Chancellor of the University, the heads of the five major departments of medicine, two special departments and the Dean. The advantage of such a small working faculty is apparent.

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 BENJAMIN W. ARNOLD
 WILLIAM BARNET
 HENRY M. SAGE
 A. PAGE SMITH

DR. WALTER H. CONLEY, President, Alumni Association

HON. WILLIAM S. HACKETT, Mayor of Albany }
 HON. EDWARD EASTON, JR., Recorder of Albany } *Ex-officio*

Executive Committee

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 WILLIS R. WHITNEY

FACULTY

*CHARLES ALEXANDER RICHMOND, D. D., LL. D.
Chancellor of the University

JAMES PETER BOYD, A. B., M. D.
Emeritus Professor of Obstetrics and Diseases of Children

CYRUS STRONG MERRILL, M. D.
Emeritus Professor of Ophthalmology and Otology

Department of Medicine

*HERMON CAMP GORDINIER, A. M., M. D.
Professor of Medicine

*THOMAS ORDWAY, A. M., Sc. D., M. D.
Dean and Associate Professor of Medicine

LEMUEL WHITTINGTON GORHAM, M. D.
Clinical Professor of Medicine

CLINTON BENJAMIN HAWN, M. D.
Clinical Professor of Medicine

JESSE MONTGOMERY MOSHER, M. D.
Clinical Professor of Mental Diseases

ARTHUR SAUTTER, M. D.
Clinical Professor of Dermatology and Contagious Diseases

HENRY LARNED KEITH SHAW, M. D.
Clinical Professor of Pediatrics

ARTHUR BENSON, M. D.
Instructor in Pediatrics

FREDERIC CHARLES CONWAY, M. D.
Instructor in Medicine

ERASTUS CORNING, M. D.
Instructor in Medicine

STEPHEN H. CURTISS, M. D.
Instructor in Medicine

OTTO A. FAUST, M. D.
Secretary and Instructor in Medicine

* Member of the Executive Faculty

NELSON KAUFMAN FROMM, M. D.
Instructor in Medicine

WALTER KINGSLEY GRIGG, B. S.
Instructor in Clinical Pathology

PERCIVAL W. HARRIG, M. D.
Assistant in Dermatology

RICHARD ANDREW LAWRENCE, M. D.
Instructor in Pediatrics

WILLIAM E. LAWSON, M. D.
Instructor in Medicine

CLINTON PRESTON McCORD, M. D.
Instructor in Educational Hygiene

JOSEPH PATRICK O'BRIEN, M. D.
Instructor in Medicine

D. GLENN SMITH, M. D.
Instructor in Industrial Medicine

FRANK VANDER BOGERT, M. D.
Instructor in Pediatrics

FRANK JOHN WILLIAMS, M. D.
Instructor in Pediatrics

CHARLES KNICKERBACKER WINNE, JR., M. D.
Instructor in Medicine

GEORGE N. LEONARD, M. D.
Assistant in Medicine

HAROLD E. MARDEN, M. D.
Assistant in Medicine

Department of Surgery

*ARTHUR WELLS ELTING, M. D., LL. D.
Professor of Surgery

ARTHUR JOSEPH BEDELL, M. D.
Clinical Professor of Ophthalmology and Otology

GEORGE EVERETT BEILBY, M. D.
Clinical Professor of Surgery

* Member of the Executive Faculty

JOHN McWILLIAMS BERRY, M. D.
Clinical Professor of Orthopedics and Roentgenology

JOSEPH LEWI DONHAUSER, M. D.
Clinical Professor of Surgery

JOHN BRUCE HARVIE, M. D.
Clinical Professor of Surgery

CHARLES G. McMULLEN, M. D.
Clinical Professor of Surgery

ARTHUR HENRY STEIN, M. D.
Clinical Professor of Surgery

CLEMENT FRANK THEISEN, M. D.
Clinical Professor of Laryngology and Rhinology

JAMES NEWELL VANDER VEER, M. D.
Clinical Professor of Genito-Urinary Surgery

STANLEY EARL ALDERSON, M. D.
Instructor in Surgery

PETER L. HARVIE, M. D.
Instructor in Surgery

EUGENE EUNSON HINMAN, M. D.
Instructor in Laryngology and Rhinology

WILLIAM PATRICK HOWARD, M. D.
Instructor in Surgery, Orthopedics and Roentgenology

HENRY HUN, M. D.
Instructor in Surgery

CHARLES HENRY MOORE, M. D.
Instructor in Ophthalmology and Otology

ARTHUR SAUTTER, M. D.
Instructor in Venereal Diseases

JOHN FORREST SOUTHWELL, M. D.
Instructor in Surgery and Genito-Urinary Surgery

PERCIVAL W. HARRIG, M. D.
Assistant in Venereal Diseases

JOHN EDWARD HESLIN, M. D.
Assistant in Genito-Urinary Surgery

WILLIAM GEORGE KEENS, M. D.
Assistant in Laryngology and Rhinology

JOHN PAUL O'KEEFFE, M. D.
Assistant in Laryngology and Rhinology

FRED F. McGAULEY, M. D.
Assistant in Surgery

Department of Gynecology

*JOHN ALBERTSON SAMPSON, A. M., M. D.
Professor of Gynecology

PAUL TOMPKINS HARPER, M. D.
Clinical Professor of Obstetrics

THOMAS OWEN GAMBLE, M. D.
Instructor in Obstetrics

JOSEPH O'CONNOR KIERNAN, M. D.
Instructor in Obstetrics

TIFFANY LAWYER, M. D.
Instructor in Gynecology

ALFRED L. MADDEN, M. D.
Resident Obstetrician, Brady Maternity Home, Assistant in
Obstetrics

Department of Neurology

*LASALLE ARCHAMBAULT, M. D.
Professor of Neurology

NELSON KAUFMAN FROMM, M. D.
Instructor in Neurology

Department of Anatomy

*WESLEY MANNING BALDWIN, A. M., M. D.
Professor of Anatomy

WALTER K. VAN ALSTYNE, A. B., A. M.
Instructor in Anatomy

CHARLES HOWARD HARBINSON
Instructor in Anatomy

* Member of the Executive Faculty

THOMAS WILLIAMS JENKINS, M. D.
Assistant in Anatomy

ARTHUR HENRY STEIN, M. D.
Associate in Anatomy

Department of Physiology

*MELVIN DRESBACH, M. Sc., M. D.
Professor of Physiology

ARTHUR KNUDSON, PH. D.
Professor of Biological Chemistry

WILLIAM D. CUTLER, M. D.
Associate in Pharmacology

HELEN R. HOSMER, B. S.
Instructor in Physiology

KENNETH C. WADDELL, C. E.
Assistant in Physiology

FRANK S. RANDLES, PH. B.
Assistant in Biological Chemistry

Department of Pathology

VICTOR C. JACOBSON, M. D.
Professor of Pathology

LAWRENCE JOSEPH EARLY, M. D.
Associate in Bacteriology and Pathology

LOUISE N. BATT, A. B.
Instructor in Bacteriology

LYLE A. SUTTON, M. D.
Assistant in Pathology

CALENDAR

1922

Examinations begin Monday, September 18
Registration of students Monday, September 25
Election recess Tuesday, November 14
Thanksgiving recess November 30-December 1, 2
Christmas recess Sunday, December 24

* Member of the Executive Faculty

1923

Mid-year examinations begin.....Wednesday, January 24
 Second semester begins. (All classes except first year)

Monday, February 5

First semester of first year ends.....Thursday, February 8

Second semester of first year begins.....Monday, February 12

Washington's birthday, a holiday.....Thursday, February 22

Memorial day recess Tuesday, May 30

Examinations begin Monday, May 29

Commencement. Monday, June 11

Examinations for advanced standing.....Monday, September 17

Conditions examinations Monday, September 17

Academic year begins, registration of students

Monday, September 24

REQUIREMENTS FOR ADMISSION

Admission to First Year Class. No applicant for the Degree of Doctor of Medicine is admitted to the Albany Medical College, Medical Department of Union University, unless he has satisfactorily completed, in addition to a high school course, two years of work in Union College or presents equivalent credits, from another approved institution, as outlined below. Each candidate must present a Medical Student's Certificate from the Examinations Division of the Board of Regents of the State of New York. No entrance conditions are allowed.

The minimum collegiate premedical work is sixty semester hours extending through two years of thirty-two weeks each exclusive of holidays. The subjects included in the two years of college work should be in accordance with the following schedule adopted by the Association of American Medical Colleges:

Required Subjects — Chemistry, physics, biology, English composition, a modern foreign language.

Subjects Strongly Urged — Comparative vertebrate, anatomy, psychology, social science.

For curriculum of Pre-Medical course given at Union College see page 117.

Combined Courses leading to B. S. and M. D. degrees. While the above courses represent the minimum requirements for admission to the first year it is very strongly recommended that if possible the college work include three instead of two years so

as to allow a more thorough preparation in physics, chemistry and biology and secure a greater breadth of culture. A combined seven-year course has been arranged with Union College, the academic department of Union University, and completion of this course entitles a student to both B. S. and M. D. degrees. For information address Dr. F. C. Barnes, Union College, Schenectady, N. Y.

Limitation of Numbers. Classes are limited in number and the college reserves the right to refuse applicants, if the number admitted is as large as can be effectively taught. It also reserves the right to limit the number of students accepted from any premedical school located in the vicinity of any other Class "A" Medical School. Women are admitted. Students are requested to apply for admission before July 1, on blanks to be furnished by the Dean's office. All inquiries and other communications should be addressed to the Office of the Dean, Albany Medical College, Albany, N. Y.

Admission to Advanced Standing. All candidates for the degree of Doctor of Medicine desiring to be admitted to advanced standing must satisfy the conditions referred to under Admission to the First Year Class and in addition must present (a) Evidence that they have satisfactorily completed in an approved medical school the courses from which exemption is desired. (b) That they present a letter of honorable dismissal from, and be eligible for promotion in, the college in which they pursued their medical studies. (c) They must further be able to comply with the requirements for such promotion in the Albany Medical College. (d) They may also be required to pass examinations by the heads of the departments concerned.

It is against the policy of the faculty to admit students to advanced standing in the fourth-year class, and only in very unusual instances to the third-year class.

Admission of Special Students. On petition, supported by recommendation from the head of the department, special students may, at the discretion of the faculty, be registered in any course. Students who intend to be candidates for the degree

of M. D., but find it practicable to devote only a limited amount of time to study and class work, may with the Dean's permission spread the courses of any one year over not more than two years, provided they will adapt themselves to any changes that may be made in the curriculum, and pay their fees pro rata, plus any just contingent increment found necessary. Resumption after the interruption of the medical course will be allowed at the point where the student dropped out only when the intermission is not over two years and providing he has the preliminary education of the class to which he is admitted. Courses added, modified or lengthened during his absence are, at the discretion of the faculty and the instructor in charge, repeated in whole or in part.

EXAMINATION AND ADVANCEMENT OF STUDENTS

Students are graded as "passed," "conditioned" and "failed." A student who has failed in any subject must repeat the work in that subject. A student who is conditioned in not more than 50% of credits during the first and second years and not more than 25% of credits during the third and fourth years is entitled to but one re-examination on the subjects in which he is conditioned. All conditions must be passed before the student may enter the succeeding year. Students conditioned in more than 50% of credits during the first and second years and more than 25% of credits during the third and fourth years must repeat the work of the entire year. No student will be registered more than twice in the same course. No student will be admitted to the third-year class unless he has taken the preliminary New York State Board examinations, or Part I examination of the National Board of Medical Examiners. No student will be admitted to the fourth-year class unless he has successfully passed the preliminary New York State Board examinations or Part I, examination of the National Board of Medical Examiners.

The faculty reserves the right to require the withdrawal of any student at any time whenever in the opinion of his instructors it is manifest that he is incompetent for his work, or for any reason is unfit to continue his course.

SCHOLARSHIPS

Dr. Julia G. McNutt Scholarship. Established by the Albany Colony of the National Society of New England Women, providing \$200 for tuition at the Albany Medical College; to be awarded to a woman medical student, preferably of New England ancestry.

Dr. Robert M. Fuller Scholarships. The income of a fund of \$30,000, provided in the will of Dr. Robert M. Fuller, for scholarships for medical students of the Albany Medical College who have entered Union College and spent one or more years therein, preference being given to students who may show a marked degree of efficiency in "medical chemistry."

DEPARTMENTS OF INSTRUCTION

The departments of instruction include the major branches of medicine and certain special subjects. This arrangement is to facilitate administrative detail and to insure the advantages of a small executive faculty. The Faculty expressly reserves the right to make alterations in the curriculum whenever advisable and without notice. The character of the instruction is as follows:

ANATOMY

This department provides instruction in histology, embryology and gross anatomy. It co-operates with the departments of surgery, medicine and neurology in the teaching of surgical, topographical and nervous anatomy respectively.

Anatomy. The work in this department is practical and the instruction personal. The various tissues and organs of the human body are studied synchronously, so far as is possible, in the subdivisions of embryology, microscopic anatomy, and gross anatomy in order that the student may acquire a more comprehensive view and better correlated knowledge of the subject. The kinship of human structure to that of the higher vertebrates is pointed out by lecture and demonstration. The morphologic features of the cadaver are interpreted upon biologic and physiologic grounds. Consideration of the various aspects of

the mechanics of development leads to the fields of embryologic defects, arrests, and monsters. Emphasis is laid upon the relation of the science of surgery and to medicine by the courses in regional and surgical anatomy. The subject matter of the whole science is approached with the purpose of inquiry and investigation.

The laboratories are equipped for research work along descriptive and experimental lines. Research workers who will give half or the whole of their day will be welcomed and granted every facility.

Gross Anatomy. This subject is taught almost entirely by the dissection of the human cadaver. Demonstrations upon the cadaver, models, and prepared dissections are given when necessary for the purpose of elucidating the more difficult features of the subject as they occur. Dissections of the adult are compared with those of the infant. The work of the dissecting room is further augmented by the study of living models, the purpose being to familiarize the student with the features of the live body as they present themselves to the eye and to the touch, thereby effecting a most essential and practical correlation with the facts gained in the dissecting room. The body is divided into the following parts for dissection:

- | | |
|-------------------------|---------------------------|
| I Head and neck. | IV Upper extremity. |
| II Thorax. | V Lower extremity. |
| III Abdomen and pelvis. | VI Brain and spinal cord. |

The required work upon each part comprises (a) a dissection of the part, (b) a practical oral examination upon the completion of the part, (c) a written examination upon the completion of the part. 495 hours.

Special courses consisting of the dissection and study of regions or of parts are open to graduates.

Microscopic Anatomy. Instruction in histology is given by means of lectures, demonstrations, class conferences, and by practical work in the laboratory. The science is approached by the study of the cell and of the elementary tissues. The finer anatomy of the organs of the cadaver is considered in connection

with the study of freshly-autopsied material and the work in the dissecting room. The consideration of living and of fresh and unstained tissues precedes that of fixed and stained specimens. Practical instruction in the fixation, imbedding, cutting, and the vital-staining of tissues is given. Class conferences are held at stated intervals. 132 hours.

Embryology. Instruction in this subject is given by means of lectures, demonstrations upon models, class conferences, and by laboratory work. The lectures cover the various features of mitosis, fertilization, cleavage, gastrulation, and the formation of the germ layers. Later, by coordination with the work in gross anatomy the various phenomena of histogenesis and of organogenesis are considered. Emphasis is laid upon those stages of development at which defects, arrests, and monsters are most likely to occur and interpretations sought in the fields of comparative and of experimental embryology. The laboratory work consists of the study of stained serial sections and of the study of the larger embryologic features by means of the binocular microscope. Demonstrations and class conferences are held at stated intervals. 72 hours.

PHYSIOLOGY

This department offers instruction in physiology, biological chemistry, pharmacology and research work.

Physiology for first year medical students. The main subject in this course is the physiology of man. As an introduction, the fundamental properties of living substance are surveyed and the reactions of organisms to stimuli are studied, in order to review the relations of animal forms to their environment. From the elementary vital phenomena the study proceeds to the more complex functions of tissues and organs and to their correlation in the systems of the body. The method of presentation is that of a combination of lectures, demonstrations, discussions and laboratory practice. The student is given guidance sufficient to save time and do his work systematically, but he is left to his own resources as much as possible and initiative is encouraged.

In the laboratory various animals are used, under proper supervision so that they are treated painlessly. In many exercises observations are made upon the human body; thus, the student learns to employ methods and apparatus which will be of service to him in clinical work. The emphasis is not laid upon utility, however, but upon the fundamental facts brought out in the experiments.

The sources of information, aside from the laboratory, are standard texts and the extensive collection of books and periodicals in the New York State Library. A certain amount of time is allotted to be spent in that library, where topics of interest are worked up and presented, in many instances, for discussion in the class room. The main purpose of this library work is to encourage reading along physiological lines and the development of a critical faculty.

The student's knowledge of the subject is tested by intimate personal contact with his instructors, by stated examinations during his course and by a comprehensive final examination. Three hundred and thirty hours are devoted to the subject, as follows: lectures, fifty hours; recitations, forty hours; laboratory work, two hundred ten hours.

The physical side of physiology is correlated with the chemical and with pharmacology, as outlined below.

Biological Chemistry. A systematic course of lectures, recitations, conferences and laboratory work is given covering those portions of the subject which are of the greatest importance to the student of medicine. Subjects studied in detail are: Composition and properties of carbohydrates, fats, and proteins; chemistry and physics of the cell; composition of milk and more important foodstuffs; chemistry of digestion, absorption and metabolism; study of tissues—blood, muscle, nervous and connective; normal and pathological urine. In the laboratory course each student is supplied with all chemicals and apparatus required. As a prerequisite courses in chemistry required for entrance; namely, inorganic, quantitative analysis and organic chemistry are essential. This course is concentrated in the second semester of the

first year; lectures or recitations, 5 hours per week, and laboratory, 12 hours per week.

Clinical Chemistry. The work in this course consists of a study of important practical aspects of clinical chemistry and nutrition, supplemented by lectures and outside reading. The course is devoted to qualitative and quantitative clinical examination of urine, gastric contents, blood, milk and feces. A part of the course consists also in carrying out a series of metabolism experiments in order to impress the important points of normal and abnormal metabolism. The student is thus made familiar with procedures which have an important practical application. Laboratory, 4 hours per week, during the second half of the second year.

Pharmacology. In this course, instruction is given by lectures, recitations, demonstrations and laboratory work. The work covers pharmacy and materia medica in which the student has an opportunity of learning the physical and chemical properties of the most important drugs; a few exercises in pharmaceutical compounding and in prescription writing and incompatibilities are included. The major part of the course covers experimental work illustrating the physiological action of a number of drugs.

Chemical Pharmacology. Lectures and recitations, two hours a week; laboratory, six hours a week during January.

Pharmacodynamics. Lectures and recitations, three hours a week; laboratory, five hours a week during the second semester. Total, 160 hours.

These courses are given in the second year.

Research and Advanced Work. Students properly qualified may select special work and undertake investigation in physiology, biochemistry and pharmacology.

PATHOLOGY

Under this department are grouped the courses of pathology, bacteriology and parasitology. In introducing the student to the study of pathology, certain stress is laid upon laboratory and autopsy technique but only as adjuncts to the actual appre-

hension of lesions as presented by the instructor at the autopsy table and through the microscope. Daily lectures are given upon the subjects which are to be studied in subsequent laboratory periods and the small size of the classes enables much individual instruction to be given. The close relationship enjoyed by clinician and pathologist and which is enhanced through the location of the entire pathology department in the main teaching hospital, accrues to the benefit of the student in many obvious ways. The department has a growing museum illustrating the various lesions of pathological anatomy and this is used freely in teaching.

The student is required to attend the autopsies, to write a protocol and to give careful microscopic study to all the important organs in each case seen. In addition to the prescribed work of the second year it is planned to offer this year to fourth year students a special short course in tumors and to a qualified few the opportunity of original investigation in experimental pathology.

The course in medical bacteriology and parasitology covers the usual fields in these sciences with particular stress laid upon the clinical importance of pathogenic organisms. Material from the hospital wards is constantly available for study and the department is fortunate in having the hearty cooperation of the laboratory of the State Department of Health which is located very close to the Albany Hospital. After the student is well founded in the fundamentals of bacteriology, the phenomena of immunity are studied, with preparation in the laboratory of antigens and amboceptors, demonstration of the Wasserman, performance of the Widal and other immune reactions.

MEDICINE

Internal Medicine. Instruction in internal medicine is given in the third and fourth years. In the third year the student is engaged in practical individual work in the general dispensaries, St. Peter's Hospital and the Tuberculosis Department, acting as assistant in caring for out patients.

Systematic didactic and clinical lectures in medicine are given during the third and fourth years as a basis for correlating and

amplifying the information gained in the clinics and at the bedside. In the fourth year the students serve as assistants in the medical wards. Here they have bedside instruction in small groups, and responsibility under supervision.

Physical Diagnosis. The course in physical diagnosis, including history taking, is given to small groups in the latter half of the second year followed by an intensive review early in the third year and continued during the entire year in the form of dispensary work, four three-hour periods a week supplemented by one period a week used as a lecture hour, quizz hour or demonstration clinic.

In the second year, the work is on selected material found in the Frances Elliott Austin Infant's Home, the Albany Orphan Asylum and the Albany Hospital Tuberculosis ward, and dispensaries, while the third year instruction is carried out in the dispensaries of the Albany Hospital, the Alms House Hospital and St. Margaret's House. In this way it is believed that the student first acquires a knowledge of the normal, and later has abundant opportunity to study abnormal physical signs as such, as well as their combinations occurring in various diseases, thus preparing him for intensive study of medicine in clinical bedside sections in the fourth year.

Therapeutics. A course of one hour a week in therapeutics is offered to third year men. A special effort is made to show the clinical use of those drugs whose pharmacologic action has been studied by the student in the second year, and thus to bridge over the gap between pharmacology and therapeutics, encouraging the student to demand pharmacologic proof for the action and efficacy of a drug. Lectures and demonstrations, including instruction in prescription writing, are given dealing with such therapeutic procedures as paracentesis of the chest and abdomen, lumbar puncture, intra-spinal injections, intravenous injections and transfusion. Demonstrations of some of the simpler procedures connected with nursing, such as the preparation of the hot pack, the alcohol sponge bath, etc., are given under the direction of the superintendent of nurses of the Albany Hospital.

Lectures and, in so far as possible, demonstrations are given on the following topics by those specially qualified to do so: Electrotherapy, X-ray, radiotherapy, massage, and hydrotherapy.

Pediatrics. The course of study in children's diseases consists of didactic lectures on the practical recognition and treatment of diseases of children. The course includes clinical bedside instruction in small groups; history taking, study of case histories; demonstration of infant feeding and preparation of food; examination of milk, stools, etc.; practical demonstrations of lavage, gavage, colon irrigation, lumbar and longitudinal sinus puncture; weighing, bathing, and clothing babies; as also social pediatrics with practical work at the Child Welfare Station and Day Nurseries, and visits to milk depots and dairies. During the senior year elective work in the care and feeding of infants can be taken at St. Margaret's House and Hospital where laboratory facilities give opportunity for special research work.

The cities of Albany, Troy, and Schenectady offer numerous opportunities for students for the study of diseases of children and infants, and also facilities to observe the medical inspection of school children and the operation of infant welfare stations.

The Child's Hospital, St. Margaret's House and Hospital for Infants, the Children's Ward of the Albany Hospital and Ellis Hospital, the Frances Elliott Austin Infants' Home and the dispensaries of the Albany Hospital, and the South End Dispensary, afford abundant clinical material for the student.

The Albany Orphan Asylum, St. Vincent's Orphan Asylum and the Troy Orphan Asylum permit students from the Albany Medical College free access to study the diseases of children.

Educational Hygiene. This very recently developed branch of medicine includes a consideration of the organization, scope and methods of school medical inspection, health education, physical training, the sociology and psychology of mental deficiency and delinquency as confronted in the public schools, nutritional problems among school children, school nursing, control of contagious diseases in the schools, the operation of school dental dispensaries and the development of systems of records in the administration of the above lines of health activity.

Dermatology and Contagious Diseases. In the third year clinics and clinical lectures are given and in the fourth year section work is given to groups of students. In the fourth year one hour a week is devoted to a quiz.

Didactic lectures in contagious diseases are given for the most part in the course in pediatrics. For the practical individual instruction in contagious diseases students are taught in small sections during the third and fourth years, in which they receive bedside instruction in the contagious department of the Albany Hospital and the contagious department of the Samaritan Hospital.

Mental Diseases. Instruction is given to the senior class divided into sections. Students report upon the wards at half-past two o'clock on alternate Mondays during the year, and in groups of two or three are assigned individual cases for examination. At half-past three the section meets the instructor and the reports are discussed and criticized. A syllabus in the form of a notebook with short psychological introduction is used as a guide. Opportunity is given to observe the progress of different cases from week to week.

This plan of instruction was adopted upon the opening of Pavilion F in 1902 and is thought to be the first instance in this country of systematized bedside teaching of mental diseases for undergraduate students.

Clinical Pathology. In this course a systematic study of the methods for examination of urine, blood, sputum, stomach contents, stool and body fluids is undertaken. Instruction is given by means of work in the laboratory, supplemented by brief lectures and outside reading. Emphasis is laid upon the training of students in the practical and personal application of laboratory diagnostic methods.

Each student is provided with a microscope, locker, blood counting apparatus, reagents, etc.

Public Health. Two courses in Public Health are given during the second semester, as follows:

I. Laboratory Course in Public Health

This course is designed primarily for undergraduates, but

physicians and health officers may enroll. It consists in lectures, demonstrations, and practical laboratory and field work, including a sanitary survey.

II. Post-Graduate Course in Infectious Diseases and Public Health

This course is designed for health officers and physicians.

SURGERY

Surgery. The teaching of surgery begins in the second half of the second year, with a course in regional, applied and surgical anatomy. In addition there is a course in surgical technique.

In the third year are given a course in surgical diagnosis and a laboratory course in surgical pathology. Section work is given in the surgical dispensary at the South End Dispensary and at the Albany Hospital Dispensary. Weekly recitations in surgery are held throughout the year. Surgical clinics are held weekly throughout the year. Surgical clinics are held also at the General Electric Company Emergency Hospital and at the Ellis Hospital in Schenectady once each week.

In the fourth year bedside teaching is done in which the senior students in small groups serve as assistants in the wards of the Albany Hospital. Surgical teaching is done in a similar manner in the Samaritan Hospital in Troy.

Surgical Anatomy. The course in surgical anatomy, given in the second half of the second year, consists of a series of demonstrations, lectures and quizzes to round out the course in anatomy just completed and to illustrate the practical application of anatomy to everyday problems in surgery and medicine. The college is fortunate in having a large collection of museum specimens, and these, together with dissections and correlary demonstrations on a living subject, aim to give a comprehensive idea of pathological processes of the human organism, the topographical anatomy for diagnosis and surgical routes for treatment.

Surgical Technic and Minor Surgery. The course in surgical technic and minor surgery consists as far as possible of practical demonstrations, preceded by a brief synopsis of the development of modern surgical technic.

The following subjects are included in the course: Preparation of patient and operator for surgical operations; methods of preparation and sterilization of gauze in the various forms in which it is used; preparation of suture and ligature material and the indications for their use; demonstration of instruments, their uses, care and sterilization; drainage in its various forms and its indications; preparation of poultices and fomentations; methods and appliances used in the post-operative care of patients, such as dressing of wounds, feeding appliances, stomach and rectal tubes, catheters, transfusion, application of heat and cold, and use of the Esmarch bandage and the tourniquet.

Practical work is required of each student in the application of various types of bandages and splints.

Surgical Pathology. Surgical Pathology is taught three consecutive hours a week throughout the third year. One hour is devoted to lectures and two hours to microscopic and macroscopic demonstrations of surgical specimens and of other pathological material available at the time. The essentials of histology and pathology and their relation to surgery are discussed before starting on general and special surgical pathology. Stress is laid on the clinical symptoms as derived from pathologic lesions.

Surgical Diagnosis. The course in Surgical Diagnosis, as given to the third year class, comprises two hours a week throughout the year of practical and didactic lectures. When possible an extra hour is added each week.

The lectures are based upon a Surgical Diagnosis Syllabus, which gives to the student the essentials of general and of special diagnosis.

The methods of examination of the patient are presented. Special stress is given to regional anatomy, regional symptoms, and regional differentiation of symptoms. Case history teaching occupies a prominent part of the course, and the syllabus presents to the student various types of questions applicable to special groups of cases.

Orthopedics and Roentgenology. The course in orthopedics is given at the Medical College building and in the wards

of the Albany Hospital and The Child's Hospital. The Albany Hospital and The Child's Hospital are equipped to care for orthopedic cases of all kinds and in connection with The Child's Hospital there is a corrective room in charge of a competent instructor. The clinical material includes all classes of orthopedic cases. In the third year orthopedics is taught by means of clinical lectures and lantern slide demonstrations. In the fourth year the students are divided into sections and in the wards of the Albany Hospital and The Child's Hospital are given an opportunity to see and examine all cases and note the treatment given.

For the course in roentgenology the Albany Medical College has at its disposal the Roentgen Ray Department of the Albany Hospital and of The Child's Hospital. The equipment of these departments is excellent; it includes the apparatus for the use of gas and Coolidge X-Ray tubes, stereoscope, stereoscopic tube stand, stereoscopic abdominal and thoracic apparatus both horizontal and vertical, horizontal and vertical roentgenscopic apparatus, a general localizer and a localizer for foreign bodies in the eye. The clinical material of the departments is extensive and varied. The work at present averages about 8000 roentgenographic and roentgenscopic examinations a year. The value of the Roentgen Ray as an aid to diagnosis in the various branches of medicine and surgery is considered in a series of lectures and demonstrations and a special study of X-Ray plates as related to Orthopedic Surgery is made throughout the year.

Genito-Urinary Surgery. In the third year didactic lectures (one hour per week) throughout the college year aim to inculcate in the minds of the students the salient features of the usual diseases met with, so that the student is fitted to pursue the work of the next year in an intelligent manner. These lectures are illustrated and there is an occasional lantern slide demonstration in the nature of a review. In the fourth year teaching is entirely by sections of four to eight men; the students have practical individual experience in the treatment of cases.

The Albany Hospital, through its Genito-Urinary Department

and the South End Dispensary branch, offers ample clinical material for teaching.

A special class is formed for those who wish to pursue advanced study, and consists of ten lessons of one hour each.

Ophthalmology and Otology. A one hour lecture is delivered every week for the first half of the third year in ophthalmology and the latter half in otology. The didactic work is illustrated by lantern slides and cadaver operations.

The third year class is divided into sections for the study of the usual diseases of the eye and ear. Cases illustrating the routine method of examination for both eye and ear diseases are presented. Special emphasis is laid upon the external diseases of the eye, the method of using the ophthalmoscope and its practical application, operations, and the relationship between ophthalmology and general medicine. The student examines the patients and must pass a theoretical and practical examination.

They are taught the method of examination and treatment of the usual ear diseases. This instruction is supplemented by operations and internal ear lesion demonstrations.

The course is so arranged that each student has an opportunity to become thoroughly familiar with routine examination and the ordinary diseases of the parts studied.

The Albany Hospital, Albany Hospital Dispensary, South End Dispensary, County Hospital, Albany Orphan Asylum and Old Ladies' Home afford abundant opportunity for extended observations.

Laryngology and Rhinology. The third year class is divided into sections for practical work in diseases of the nose and throat. One didactic lecture is given every week. Students are taught methods of examination and diagnosis. Clinical material at St. Peter's Hospital, the Albany Hospital, Child's Hospital, South End Dispensary, and Elliott Austin Home will be available for this purpose.

NEUROLOGY

This department provides instruction in neurology, neuropathology and the anatomy of the nervous system.

Work in this department really commences in the first year, during which the student is taught the embryology of the nervous system and acquires a preliminary acquaintance with the gross morphology of the brain and spinal cord as well as with the histology of the nerve elements and the simpler divisions of the central and peripheral nervous organs. During the second year an illustrated didactic lecture is given each week on the anatomy and physiology of the nervous system, and in addition a weekly laboratory exercise of three hours is devoted to the gross and microscopic study of the normal and pathological anatomy of the nervous system. In this laboratory course the student receives sections of the different levels of the cerebro-spinal axis from the cauda equina to the basal ganglia, as well as typical sections illustrating practically all the known diseases of the brain and spinal cord. At stated intervals recitations are held on the more important topics covered in the lectures and demonstrations. During the third and fourth years the students attend one didactic and one clinical lecture and one recitation on diseases of the nervous system each week. Instruction in neurology is given to both classes at the same time, the subject matter being so divided that diseases of the brain are covered one year and diseases of the spinal cord and peripheral nerves the following year. Particular attention is given to the neurological clinics at which each patient is presented by two students of the senior class to whom the case has previously been assigned for examination and diagnosis. The method of history taking and examination, the reported findings and the postulated diagnosis are criticised, and considerations bearing upon pathogeny, differential diagnosis and therapeutic indications are discussed at length. When suitable cases are available, lumbar puncture, differential electrical tests, experimental induction of vertigo and nystagmus, etc., are performed before the class. Cases for neurological clinics are always easily obtained either from the general medical service and out-patient department of the Albany Hospital and the Child's Hospital, or from the Alms House and County Hospital. Occasionally, a clinic hour is utilized for a lantern slide demonstration of neurological conditions not encountered in the usual

clinical display, there being for this purpose an exceptionally varied and interesting collection of pictures derived from the leading neurological clinics of Europe. In addition, the students of the fourth year class, divided into small groups, have the opportunity on certain days of seeing and examining patients in the various dispensaries and of learning the technique of electro-diagnosis and electro-therapy.

GYNECOLOGY

Gynecology. Gynecology is treated by a course of classroom studies in which the various normal and abnormal conditions of the pelvic organs are presented to the students in the form of illustrated problems which they are asked to solve. The solution of these problems is supplemented by additional information necessary to complete the subject under discussion. This exercise is held once a week throughout the third and fourth years. Practical instruction is given to the fourth year class (in small groups) at the South End Dispensary and Albany Hospital.

Obstetrics. Material for instruction is furnished by the Anthony N. Brady Maternity Home, the Albany Hospital and the Albany Guild for Public Health Nursing.

The Anthony N. Brady Maternity Home maintains a public ward service of twelve beds, a dispensary, and a motor ambulance. Practical instruction is given by the clinical professor of obstetrics who is attending obstetrician to the home and by the assistant in obstetrics who is its resident obstetrician.

The material offered by the Albany Hospital in its maternity ward of seven beds is utilized as available. The Special Obstetric Department of the Albany Guild for Public Health Nursing, under the direction of the obstetric department of the college, offers opportunity for the care of cases in their homes.

The aim of the department is to assure the student a firm foundation in obstetric principles and offer intensive instruction upon a relatively limited number of patients.

History of Medicine. The subjects of medical ethics, medical

jurisprudence and economics are covered in the regular courses of study by several departments and by special lectures. The responsibilities of the physician towards the insane and their relatives and the general public, and the criminal aspects of the mentally defective, are discussed in the course in mental diseases and in the public health course. In the course on obstetrics are taken up the moral and legal side of rape, feigned and unconscious pregnancy, what constitutes a "live birth," feigned or unconscious delivery, injury to the foetus during precipitate labor, post mortem delivery, and the diagnosis of recent delivery. Certain medico-legal aspects of toxicology are covered in the course in pharmacology. In the course in gross pathology, medico-legal autopsies and cases of homicide, suicide, accident and abortion and other phases of legal medicine are demonstrated or discussed.

INVESTIGATION AND SPECIAL INSTRUCTION

Opportunity for elective work and research is offered to those who are deemed qualified by those in charge of the various courses after conference with the heads of their respective departments. In special instances arrangements may be made as heretofore for co-operation or help in X-Ray or similar research from the Research Laboratory of the General Electric Company. For graduate and summer courses and other special instruction, application should be made to the dean.

Post-Graduate Clinical Instruction. Opportunity is provided for small groups of physicians to receive personal clinical instruction. The time devoted to this work is arranged in a manner similar to that for the post-graduate course in infectious diseases and public health previously described. Already a post-graduate course in medicine has been started, the general plan of which is as follows: This course is limited to four physicians who report at the Record Room of the Albany Hospital at 9:30 each Tuesday morning. They are assigned cases which have been admitted to the medical service during the previous week. These cases are

studied carefully by the physicians. At 11:30 bedside visits and conferences are held. The physician to whom the case is assigned is regarded as the family physician, while the other members of the group discuss the case from the standpoint of consultants. The opinion of the surgical and special services including neurological, psychiatric, gynecological, eye and ear, nose and throat, skin and venereal, orthopedic, X-ray, etc., are freely made use of, for the full time teaching medical service acts as a clearing house for all cases not frankly mental, contagious or surgical.

For further details, address:

OFFICE OF THE DEAN,
Albany Medical College,
Albany, N. Y.

ALBANY LAW SCHOOL

This school is among the oldest institutions of the kind in the country, having been established in 1851, and its graduates number many of the most successful men in the profession. It is and has been largely represented in the executive, judicial and legislative departments of this and many other states, as well as of the federal government. It became a part of Union University in 1873, and begins its sixty-ninth year as a law school with the present scholastic year. During its long and successful career it has, in common with other law schools, done much to demonstrate what was at one time doubtful, but is now accepted almost as an axiom, that a course at the law school is a well-nigh necessary prerequisite to a successful professional career. Its instructors have always been men of repute and standing, both for professional learning and personal character.

The local advantages of the city of Albany, as the seat of a professional school, can not be overrated. It is the capital of one of the leading states in the Union, whose legislature is in session here for the third part of the year, presenting opportunities not afforded by any other law school in the state for observing the methods and procedure collectively of the executive, judicial and legislative departments of the state government. The knowledge thus obtained by the students at law, who are to complete their course and to enter the realm of public affairs, can not be overestimated. It is easily accessible, remarkably healthful, and the scene of great business and professional activity.

The facilities afforded the students for reading and study are unsurpassed. Besides the convenient and well chosen library of the school accessible to the students at all hours of the day and evening, the students have the privilege of using the state law library, which is now established in the new Education Building. With free access to these libraries the student may be relieved to a great extent from purchasing text-books.

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Ethics, Development of Law

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Assistant to the Dean

Persons and Property, Insurance, Current Law, Practice Court

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Registrar

Hubbard Chair of Legal Ethics

A few years ago only twenty of the law schools in this country made the subject of legal ethics part of the curriculum. This fact led Gen. Thos. H. Hubbard, class of '60 Albany Law School, to place at the disposal of the board of trustees the sum of \$10,000, the income to be applied to lectures upon this subject. The board of trustees decided to inaugurate the course at the opening of the school year of 1903. Forty lectures by as many distinguished judges and lawyers have been delivered up to this time. Among the number of lecturers are Judge William Howard Taft; Hon. Willard Bartlett, former Chief Judge of the Court of Appeals, and Judge Irving G. Vann of that court.

CALENDAR

1922

Registration, first semester Tuesday, September 19
Scholastic year begins.....Wednesday, September 20
Election day recess begins.....Friday, November 3
Lectures resumed Wednesday, November 8
Thanksgiving recess begins, noon.....Wednesday, November 22
Lectures resumed Monday, November 27
Holiday recess begins, noon.....Friday, December 22

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Lectures resumed	Tuesday, January 2
Examinations	Monday-Wednesday, January 29-31
McKinley day	Monday, January 29
Registration, second semester	Monday, February 5
Lincoln's birthday	Monday, February 12
Washington's birthday—recess	Thursday, February 22
Easter recess begins, noon.....	Friday, April 18
Lectures resumed	Monday, April 16
Memorial day—recess	Wednesday, May 30
Examinations.....	Thursday, Friday, Saturday, May 31-June 2
Commencement	Wednesday, June 6

REQUIREMENTS FOR ADMISSION AND GRADUATION

The course for graduation is now three years. Candidates for graduation from this school will be required (1) to present evidence of a general preliminary education representing at least four years, or their equivalent, of work of a grade above the elementary or grammar school before beginning the course of study; (2) to have studied law at least three full years for the degree of LL.B., each school year of which shall consist of not less than thirty-two school weeks, exclusive of vacations, in which not less than ten hours of attendance upon law lectures or recitations of such prescribed course to be given or conducted by regular members of the faculty are required in each week, unless admitted to advanced standing of one year on graduation from a registered college or university; (3) to complete the course in residence of not less than one year; (4) to be of good moral character; (5) to be at least twenty-one years of age.

EXPENSES

Matriculation fee, on entrance.....	\$10
Tuition, each year.....	150
Graduation fee	10

For catalogues or further information address

ANDREW V. CLEMENTS, *Registrar*
Albany Law School

Albany, New York

ALBANY COLLEGE OF PHARMACY

The Albany College of Pharmacy was created by act of the board of governors of Union University, June 21, 1881, and constitutes the department of pharmacy of Union University. It was incorporated as the Albany College of Pharmacy, August 27, 1881. The college is centrally located at 43-45 Eagle street.

A complete reorganization of the school has recently been effected. The faculty has been increased and strengthened, new courses have been added, and the laboratory equipment has been enlarged to meet the practical and scientific needs of the times.

Two degrees are offered: the degree of Graduate in Pharmacy, given on the successful completion of two years of college work, and the degree of Pharmaceutical Chemist (Ph. C.), covering three years of college work.

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HORACE M. CARTER, PH. C.
Instructor in Chemistry and Physics

CALENDAR

1922

Registration begins Monday, September 18
Condition examinations begin Monday, September 18
College term begins Monday, September 25
First quarterly practical examinations begin Monday, October 23

First quarterly written examinations begin..Monday, October 30
 Election holidays Monday-Tuesday, November 6-7
 Thanksgiving holidays,

Thursday-Saturday, November 30-December 2

Second quarterly practical examinations..Monday, December 11
 Second quarterly written examinations....Monday, December 18
 Christmas holidays begin Sunday, December 24

1923

Lincoln's birthday Monday, February 12
 Washington's birthday Thursday, February 22
 Third quarterly practical examinations begin,

Monday, February 26

Third quarterly written examinations begin..Monday, March 5
 Fourth quarterly practical examinations begin..Monday, April 9
 Fourth quarterly written examinations begin..Monday, April 16
 Junior exercises Tuesday, May 1
 College commencement Thursday, May 3
 Summer condition laboratory work begins.....Monday, May 7
 Examinations for third year (Ph.C.) degree begin Monday, May 14
 University Commencement Monday, June 11

ENTRANCE REQUIREMENTS FOR PH. G. COURSE

Every applicant for admission to the Junior Year of the Ph. G. course must be at least 17 years of age and must present a Pharmacy Student's Certificate not later than November 15th, issued by the New York State Education Department and the number of his Registered Apprentice Certificate issued by the New York State Board of Pharmacy. Students who enter college without experience will receive their Registered Apprentice Certificate upon day of entrance.

Two years of high school work, or its equivalent, will be required for entrance in September, 1922.

Three years of high school work, or its equivalent, will be required for entrance in September, 1923.

Those who have successfully pursued the required number of years of study at a high school or other school of corresponding

grade, recognized by the State Education Department, may secure the Pharmacy Student Qualifying Certificate by sending their credentials to the Examinations Division, Education Department, Albany, N. Y., together with a fee of twenty-five cents. Those unable to present such credentials are required to pass an examination held by the Department (Regents' Examination) in any of the subjects named in the following table which may be selected by the candidate, the subjects so selected to give a total number of credits amounting to at least, in 1922, to 30 counts, and in 1923 to 45 counts, as there indicated. These examinations are held simultaneously in January, June and September, in Albany, New York, Buffalo and Syracuse.

Students who have attended private institutions should not fail to ascertain whether such institutions are registered by the Education Department. If not, their credentials will not be accepted, and they will be required to take the regular examinations of the Department. For information as to these examinations, the necessary fees, etc., consult the State Education Department, Albany, N. Y.

Students who successfully complete the Graduate in Pharmacy (Ph. G.) course and have proper experience are eligible to try the State Examination for Licensed Pharmacists, and upon successfully passing this examination are eligible to practice pharmacy anywhere in the State of New York.

ENTRANCE REQUIREMENTS FOR THE ADVANCED COURSES

Candidates for admission to these courses must have had four years of high school work. No student is eligible for the advanced courses unless he has satisfactorily completed all preliminary courses.

CURRICULUM

The curriculum includes:

First Year Subjects — General Chemistry, Qualitative Analysis, Theoretical and Practical Pharmacy, Manufacturing and Dis-

dispensing Pharmacy, Botany, Vegetable Histology, Physics, Pharmaceutical Mathematics, Pharmaceutical Latin, Physiology.

Second Year Subjects — Organic Chemistry, Quantitative Analysis, Theoretical and Practical Pharmacy, Manufacturing and Dispensing Pharmacy, Materia Medica and Pharmacognosy, Microscopic Pharmacognosy, Toxicology, Pharmaceutical Jurisprudence, Commercial Pharmacy.

Third Year Subjects — Advanced Analytical Chemistry, Bacteriology.

FEES

EACH YEAR

(Ph. G. Course)

Matriculation.	\$5.00
Tuition.	200.00
Student activities	5.00
	\$210.00

Fees are payable in advance at the beginning of each school year, but may be paid, if desired, in two instalments of \$100.00 each. The first instalment of \$100.00 is due on entrance, the second on or before the fifteenth of December.

The fee for the third year (Ph. C.) is \$250.00.

A fee of \$30.00 is charged for each of the laboratory courses given during the summer months.

A breakage deposit of \$15.00 is required of each student taking the two years' course. Students taking the third (Ph. C.) year must pay a breakage deposit of \$25.00 at the beginning of each session. Any balance left from the breakage deposit after deducting cost of material broken, will be returned at the close of each session.

EMPLOYMENT AND EXPERIENCE

Before Graduation. Students are not required to have drug store experience at entrance, and many students enter college who have never worked in a drug store, but such experience is desirable. There is a great demand in the numerous drug stores of

the city for pharmacy students' services. The compensation usually received is large enough to meet current expenses and the practical experience obtained is very helpful to the student. Personal application for employment always brings the best results. Students desirous of obtaining employment while attending college will be assisted in securing situations, but employment cannot be promised in advance, and places cannot be secured by correspondence.

After Graduation. The demand for licensed and junior pharmacists far exceeds the supply. The situation is so acute, in fact, that many drug stores have been forced to close because of lack of help. The outlook, therefore, for securing employment after graduation was never brighter than at the present time, and larger salaries are being paid now than formerly.

For a separate catalog giving more complete information address

WILLIAM MANSFIELD, *Dean*,
Albany College of Pharmacy,
Albany, N. Y.

THE DUDLEY OBSERVATORY

The Dudley Observatory is devoted to original research in astronomy, according to the purpose of its founder and successive patrons. Its contributions to science are represented in two volumes of Annals and in other published volumes and memoirs contained in the transactions of learned societies and astronomical journals. Its principal line of work at present is the determination of problems relating to the positions and motions of the stars and of the solar system as a whole.

The instrumental equipment of the observatory is designed for the purposes of exact measurement. In the tower of the main building is the Pruyn equatorial, with object-glass twelve inches in diameter. This instrument is equipped for both visual and photographic use, and is of a high order of mechanical perfection. The Olcott meridian circle is located in a separate building, especially designed for securing the utmost equality in the temperature between the external air and that in the building itself. Its object-glass is eight inches in diameter. It was made by Pistor and Martins, of Berlin, and is regarded by astronomers as a masterpiece of accurate workmanship. This instrument has been employed for many years in obtaining the measurements necessary for the construction of the numerous and elaborate star catalogues which have issued from the Dudley Observatory. In addition to these instruments, the observatory is in possession of various small telescopes, clocks, chronographs and smaller apparatus.

The institution is supported by an endowment, chiefly contributed by Mrs. Blandina Dudley, the late Catharine W. Bruce, and Hon. Frederic P. Olcott, as well as by appropriations which have been received from the National Academy of Sciences, and from current contributions of trustees and friends of the institution. Since 1902, annual grants have been made to the director of the observatory by the Carnegie Institution of Washington. These have been sufficient to provide for the entire force of assistants and computers now employed. In 1905, the Carnegie Institution made

special provision for carrying on the star researches upon which the observatory is engaged. This includes an appropriation which enabled the observatory to send the Olcott meridian circle to the southern hemisphere for two years with an ample force of observers, in order to carry out an essential feature of its investigations.

The Dudley Observatory is not designed to give general instruction in astronomy, though special students contemplating instruction in professional lines are received under an arrangement of computing service to the observatory.

The observatory is opened to visitors on Tuesday evening.

For further particulars apply to

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ARTHUR J. ROY, C. E., A. M.

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WILLIAM B. VARNUM, A. B.

HARRY RAYMOND, A. B.

SHERWOOD B. GRANT, C. E.

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ENROLLMENT, UNION UNIVERSITY, 1922-1923

STUDENTS OF UNION COLLEGE

Abbreviations

N. S., North Section; M. S., Middle Section; S. S., South Section; N. C., North College; S. C., South College; O. G., "Old Gym" Dormitory.

md, completing course at Albany Medical College.

Seniors and Juniors: *ls*, Ph. B. course; *sc*, B. S. course; *ch*, B. S. course in chemistry; *ph*, B. S. course in physics; *ce*, B. S. course in civil engineering; *ee*, B. S. course in electrical engineering; *pm*, premedical course.

Freshmen and Sophomores: *aa*, A. B. course A; *ab*, A. B. course B; *ac*, A. B. course C; *ad*, A. B. course D; *ae*, A. B. course E; *ce*, *ee*, *pm*, as above.

Graduate Students in Electrical Engineering

Ellsworth DeW. Cook, M. S. in E. E. <i>Union College</i>	Scotia
Candidate for the degree of Doctor of Philosophy	
Henry V. de Putman, M. S. in E. E. <i>Union College</i>	Schenectady
Candidate for the degree of Doctor of Philosophy	
John James Smith, M. S. in E. E. <i>Union College</i>	Schenectady
Candidate for the degree of Doctor of Philosophy	
Ralph Decker Bennett, B. S. in E. E. <i>Union College</i>	Williamson
Candidate for the degree of Master of Science in Electrical Engineering	
Richard Heber Bennett, M. S.	<i>Emory College</i> ..Nashville, Tenn.
Candidate for the degree of Master of Science in Electrical Engineering	
Anthony P. J. Boudreau, B. S. in E. E. <i>Union College</i>	Schenectady
Candidate for the degree of Master of Science in Electrical Engineering	
Lawrence Seward Bourst, B. S. in E. E. <i>Union College</i>	Schenectady
Candidate for the degree of Master of Science in Electrical Engineering	

- Charles A. Brokaw, B. S. in E. E... *Univ. of Wash.*, Townsend, Wash.
Candidate for the degree of Master of Science in Electrical Engineering
- Clarence W. Cutler, B. S. in E. E... *Wash. State Col.*, Tacoma, Wash.
Candidate for the degree of Master of Science in Electrical Engineering
- Josiah Prema Das, B. S. in E. E... *Union College*...Dadbalapur, India
Candidate for the degree of Master of Science in Electrical Engineering
- Austin V. Eastman, B. S. in E. E.... *Univ. of Wash.*....Seattle, Wash.
Candidate for the degree of Master of Science in Electrical Engineering
- Francis G. Ewald, B. S. in E. E.... *Univ. of Md.*....Mt. Savage, Md.
Candidate for the degree of Master of Science in Electrical Engineering
- Florence Fogler, B. S. in E. E..... *Mass. Inst. Tech.*, Billings, Mont.
Not candidate for degree
- Raymond F. Franklin, B. S. in E. E. *Syracuse University*....Syracuse
Candidate for the degree of Master of Science in Electrical Engineering
- Charles V. Fairchild, B. S. in E. E.. *U. of So. Cal.*, Los Angeles, Cal.
Candidate for the degree of Master of Science in Electrical Engineering
- Herbert R. Grimshaw, B. S. in E. E. *Brown Univ.*....Paterson, N. J.
Candidate for the degree of Master of Science in Electrical Engineering
- Reginald B. Hanford, B. S. in E. E.. *Union College*...Washington, D. C.
Candidate for the degree of Master of Science in Electrical Engineering
- Julius C. Hamke, B. S. in E. E..... *Univ. of Md.*.....Rockville, Md.
Candidate for the degree of Master of Science in Electrical Engineering
- Howard John Heim, B. S. in E. E... *Univ. of Neb.*.....Dawson, Neb.
Candidate for the degree of Master of Science in Electrical Engineering
- Arthur R. Hines, B. S. in E. E..... *Syracuse University*....Syracuse
Candidate for the degree of Master of Science in Electrical Engineering
- Eugene L. Hough, B. S. in E. E.... *Univ. of No. Dak.*, Buffalo, Iowa
Candidate for the degree of Master of Science in Electrical Engineering
- Glen George Langdon, B. S. in E. E. *Wash. St. Col.*, Clarkston, Wash.
Candidate for the degree of Master of Science in Electrical Engineering
- Titus G. LeClair, B. S. in E. E..... *Univ. of Idaho*...Lewiston, Idaho
Candidate for the degree of Master of Science in Electrical Engineering
- Vernon Maley Marquis, A. B. in E. E. *Leland Stan. U.*, Twin Falls, Idaho
Candidate for the degree of Master of Science in Electrical Engineering
- Hugh Raleigh McKean, B. S. in E. E. *Rice Institute*....Mykawa, Texas
Candidate for the degree of Master of Science in Electrical Engineering
- William B. Nelson, B. S. in E. E.... *Cal. In. of Tech.*, Los Angeles, Cal.
Candidate for the degree of Master of Science in Electrical Engineering

- Harold Steven Ogden, B. S. in E. E. *Cal. In. of Tech.*, Los Angeles, Cal.
Candidate for the degree of Master of Science in Electrical Engineering
- Louis Parillo, B. S. in E. E. *Union College* Schenectady
Candidate for the degree of Master of Science in Electrical Engineering
- Anthony J. Palermo, B. S. in E. E. *Union College* Schenectady
Candidate for the degree of Master of Science in Electrical Engineering
- Marida Melvin Phegley, B. S. in E. E. *U. of So. Cal.*, Los Angeles, Cal.
Candidate for the degree of Master of Science in Electrical Engineering
- Clarence D. Sasscer, B. S. in E. E. *Univ. of Md.* Northkeys, Md.
Candidate for the degree of Master of Science in Electrical Engineering
- Howard Lester Schug, B. S. in E. E. *Lafayette College* ... Easton, Penn.
Candidate for the degree of Master of Science in Electrical Engineering
- Vincent Allen Sheals, B. S. in E. E. *Union College* Brushton
Candidate for the degree of Master of Science in Electrical Engineering
- James W. Shealy, B. S. in E. E. *Ala. Poly. Inst.* Auburn, Ala.
Candidate for the degree of Master of Science in Electrical Engineering
- George Joseph Smith, B. S. in E. E. *Union College* Watertown
Candidate for the degree of Master of Science in Electrical Engineering
- Herman Fernand Yotz, B. S. in E. E. *Union College* Otego
Candidate for the degree of Master of Science in Electrical Engineering
- Roscoe N. Wooley, B. S. in E. E. *Univ. of Mich.* Coloma, Wash.
Candidate for the degree of Master of Science in Electrical Engineering

Graduate Students in Chemistry

- Guy Bartlett, B. S. in Ch. *Union College* Utica
Candidate for the degree of Master of Science in Chemistry
- Frank White Harrison, Ph. B. *Wooster College* Schenectady
Candidate for the degree of Master of Science in Chemistry
- Rudolph A. Schatzel, B. S. in Ch. *Union College* Schenectady
Candidate for the degree of Master of Science in Chemistry

Graduate Students — 40.

Seniors, Class of 1923

- ee Burton Elmer Anderson. *Richmond, Cal.* 60 Wash. Av.
sc George Anderson *Schenectady* Silliman Hall
ce John Crawford Anderson. *Schenectady* S & P Place
sc Gerald Jedson Andrews. *Guilderland* A X A House

<i>ce</i>	James Armstrong	<i>Cobleskill</i>	325 Avenue A
<i>ce</i>	Wallace Huldie Barrett	<i>Saratoga Springs</i>	Old Gym Dorm.
<i>sc</i>	Francis Bartley	<i>New York City</i>	K A Lodge
<i>cl</i>	John Richard Bauchelle	<i>Newark, N. J.</i>	Mohawk Golf Club
<i>ee</i>	Erroll Warner Brandenstein	<i>Schenectady</i>	26 Haigh Av.
<i>ce</i>	John Elmer Broderson	<i>Schenectady</i>	Δ X A House
<i>sc</i>	Frederick Lidell Bronner	<i>Richfield Springs</i>	Δ T House
<i>sc</i>	John Burnham	<i>Schenectady</i>	Myron St.
<i>sc</i>	John Miles Cantwell, Jr.	<i>Malone</i>	Σ Φ Place
<i>ce</i>	Raynard Denaratius Carlson	<i>Schenectady</i>	Φ Σ K House
<i>sc</i>	Edward Hubert Cashion	<i>Albany</i>	23 Clifford Rd., Menands
<i>ce</i>	Raymond Frank Cassedy	<i>Gloversville</i>	B Θ Π House
<i>ce</i>	William John Caward	<i>Cohocton</i>	21½ Wendell Av.
<i>sc</i>	John Fraser Clark	<i>Albany</i>	X Ψ Lodge
<i>ce</i>	Kenneth Boyd Clarke	<i>Schenectady</i>	Σ Φ Place
<i>ch</i>	Milton Cohn	<i>Schenectady</i>	Z B T House
<i>ce</i>	Harry Mesick Cregier	<i>Schenectady</i>	Φ Σ K House
<i>ee</i>	Parker Jonathan Davies	<i>Granville</i>	B Θ Π House
<i>sc</i>	Perry Emigh Deane	<i>Hillsdale</i>	Φ Σ K House
<i>ce</i>	John Vincent Dolan	<i>Saranac Lake</i>	Old Gym Dorm.
<i>sc</i>	Donald Templar Dold	<i>Buffalo</i>	A Δ Φ House
<i>sc</i>	Joseph Tinning Donnan	<i>Schenectady</i>	Δ X A House
<i>cl</i>	William Richard Galt Duane	<i>New York City</i>	Σ Φ Place
<i>ee</i>	Watson Potter Dutton	<i>Schenectady</i>	A Γ Φ House
<i>ee</i>	George Haswell Eaton	<i>Schenectady</i>	K A Lodge
<i>ee</i>	Edward Wilson Erdman	<i>Hartford, Conn.</i>	A Δ Φ House
<i>cl</i>	Louis Faber	<i>Schenectady</i>	137 So. Ferry St.
<i>ce</i>	Jerry Albert Farone	<i>Schenectady</i>	141 Romeyn St.
<i>ch</i>	John Waddell Finlay	<i>Elmira</i>	Δ T House
<i>sc</i>	Samuel Byroth Fortenbaugh, Jr.	<i>Schenectady</i>	B Θ Π House
<i>ce</i>	Wallace Van Rensselaer Fretts	<i>Utica</i>	Φ Γ Δ House
<i>sc</i>	Samuel Friedman	<i>Yonkers</i>	K N House
<i>ee</i>	David Louis Gallup	<i>Albany</i>	153 Hamilton St.
<i>sc</i>	Burdett Gibson	<i>Schenectady</i>	A Δ Φ House
<i>ce</i>	Delwin Harold Gidley	<i>Cobleskill</i>	Δ Φ House
<i>ee</i>	William Edward Graham	<i>Schenectady</i>	K Φ Lodge
<i>ce</i>	Clarence Milton Gregg	<i>Schenectady</i>	Δ Θ House
<i>ch</i>	Everett Helling Grupe	<i>Schenectady</i>	627 Chapel St.

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<i>cl</i>	Edward Fitch Hall.....	<i>Schenectady</i>	A Δ Φ House
<i>ce</i>	Sheik Abdul Hamid.....	<i>Rango o, Punjab, India</i> ..	20 Bedford Rd.
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<i>ce</i>	Judson Clifford Heindel.....	<i>Albany</i>	38 Moyston St.
<i>sc</i>	Eugene W. Hellmich, Jr.....	<i>Schenectady</i>	R. F. D. No. 4
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<i>ee</i>	George Anthony Lenz.....	<i>Schenectady</i>	A Γ Φ House
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<i>sc</i>	Henry Robert Loomis.....	<i>Burlington, Vt.</i>	Φ Δ Θ House
<i>ee</i>	Alfred Cadwell MacBurney....	<i>Middletown</i>	B Θ Π House
<i>cl</i>	Bruce King MacLaury.....	<i>Schenectady</i>	Pyramid Club
<i>ee</i>	Ormond Hasbrook Mann.....	<i>South Schodack</i>	Δ X A House
<i>ee</i>	William James McCraig.....	<i>Buffalo</i>	Δ Θ House
<i>sc</i>	John Harold McGauley.....	<i>Schenectady</i>	812 Hamilton St.
<i>ce</i>	Ernest Philip Meyer.....	<i>Tuxedo Park</i>	Φ Δ Θ House
<i>ce</i>	Richmond Frederic Meyer.....	<i>Tuxedo Park</i>	Φ Δ Θ House
<i>sc</i>	Edmund B. Naylor.....	<i>Schenectady</i>	K A Lodge
<i>ch</i>	George Nichols, Jr.....	<i>Buffalo</i>	K Φ Lodge
<i>ce</i>	Richard Randolph Oram.....	<i>Tuxedo Park</i>	Φ Δ Θ House
<i>cl</i>	William Chalmers Ostrom.....	<i>Schenectady</i>	Pyramid Club
<i>ce</i>	Robert George Owen Parry....	<i>New Hartford</i>	Φ Σ K House
<i>sc</i>	Roger Williams Patterson.....	<i>New York City</i>	A Δ Φ House
<i>sc</i>	Walter Pennington	<i>Schenectady</i>	105 Edward St.
<i>ee</i>	Kirkwood E. Personius.....	<i>Elmira</i>	Δ Θ House
<i>ch</i>	Joseph John Piekny.....	<i>Schenectady</i>	109 Eighth Av.
<i>sc</i>	Harold Becker Platner.....	<i>Stamford</i>	Pyramid Club
<i>ce</i>	John Porter	<i>Swampscott, Mass.</i>	K A Lodge
<i>cl</i>	Frank Andrew Reed.....	<i>Schenectady</i>	R. F. D. No. 3

sc	Raymond Garret Rice.....	Schenectady.....	Δ Θ	House
sc	Claude Clifford Rich.....	Schenectady.....	Δ Υ	House
ch	Harold Niles Rowe.....	Schenectady.....	9	Park Pl.
sc	Ralph Horton Rue.....	Schenectady.....	1009	Union St.
sc	Herbert Allen Sanderspre.....	Fort Edward.....		Old Gym Dorm.
sc	James Teller Schoolcraft, Jr....	Schenectady.....	X Ψ	Lodge
sc	Lewis Beck Sebring.....	Schenectady.....	320	Summit Av.
ce	Harold Ankers Sheldon.....	Poughkeepsie.....	K Φ	Lodge
ce	Harold George Simmons.....	Akron, O.....	Φ Γ Δ	House
ce	Donald Elmore Slack.....	Albany.....	Φ N Θ	House
cl	Kenneth Wilson Smead.....	Luzerne.....		Old Gym Dorm.
ce	George Henry Smith.....	Schenectady.....	Δ X A	House
cl	Malcolm Davry Springer.....	Troy.....	398	Tenth St., Troy
ee	Raymond Henry Stoetzel.....	Schenectady.....	K Φ	Lodge
ce	William Henry Stringfellow....	Schenectady.....	123	Parkwood Blvd.
sc	John Robert Sutton.....	Detroit, Mich.....	Σ Φ	Place
ee	Carroll Fletcher Terwilliger...	Schenectady.....	312	Parkwood Blvd.
ch	Raymond Henry Thielking.....	Amsterdam.....	53	Arnold Av., Am'm
ce	Theodore Richard Townley....	Ballston Lake R. D. 1, Ballston Lake		
ee	Dimitri S. Trone.....	Schenectady.....	17	Waverly Pl.
ce	Carey Chamberlain Tubbs.....	Cooperstown....	Φ N Θ	House
ch	Alonzo Taylor Waterhouse.....	Albany.....	263	Western Av., Albany
sc	John Stover Welling.....	Hudson Falls.....	Δ Φ	House
ch	George Henry Whipps.....	Auburn.....	Δ Θ	House
sc	Paul Mead Wilber.....	Schenectady.....	X Ψ	Lodge
sc	Herbert Willetts.....	Troy.....	Δ X A	House

Seniors — 106

Juniors, Class of 1924

sc	Harold Thomas Andrews.....	Gloversville.....	Δ Υ	House
ee	Richard Simmons Arthur.....	Gloversville.....		Pyramid Club
ce	John Stothoff Badeau.....	Schenectady.....		Silliman Hall
sc	Albert Phillips Bantham.....	Schenectady.....	Φ N Θ	House
ee	Charles Raymond Barhydt.....	Carman		Carman
ce	Clifford Earl Barker, Jr.....	Richmond Hill.....	B Θ Π	House
ce	Douglas Langley Barrett.....	Katonah.....	K A	Lodge
ce	Charles Willard Barton.....	Oswego.....	Δ X A	House
ce	Norman Lawrence Bates, Jr....	Oswego.....	Ψ Υ	House

<i>sc</i>	Northrop Terry Bellinger.....	<i>New York City</i>	Ψ T House
<i>ph</i>	Jetson Oliver Bentley.....	<i>Schenectady</i>	Λ X A House
<i>ee</i>	Victor Bettini.....	<i>New York City</i>	K A Lodge
<i>ee</i>	Francis Michler Bishop.....	<i>Schenectady</i>	A Δ Φ House
<i>ce</i>	Arthur Blessing.....	<i>Schenectady</i>	1813 Broadway
<i>ce</i>	Nathaniel Mortimer Bowie, Jr.....	<i>Rochester</i>	Σ Φ Place
<i>ee</i>	Mitchell McGuire Bowman.....	<i>Petersburg, Va</i>	K A Lodge
<i>ce</i>	Kenneth Barnard Brandenburg..	<i>New York City</i>	Ψ T House
<i>cl</i>	David McKenna Brockway.....	<i>Albany</i>	Δ Φ House
<i>ce</i>	Herbert Lawrence Brown.....	<i>Adams, Mass</i>	Pyramid Club
<i>ce</i>	Maurice James Brown.....	<i>Liberty</i>	Δ T House
<i>ce</i>	Arthur Cortez Bussy.....	<i>Arena</i>	Φ N Θ House
<i>cl</i>	Franklin Arnold Butts.....	<i>Poughkeepsie</i>	B Θ Π House
<i>sc</i>	Donald Forrester Cameron.....	<i>Amsterdam</i>	Φ Γ Δ House
<i>cl</i>	John Miller Carroll.....	<i>Johnstown</i>	A Δ Φ House
<i>sc</i>	Lester McCormick Carson.....	<i>Schenectady</i>	K Φ Lodge
<i>sc</i>	Donald Holmes Clark.....	<i>Pulaski</i>	B Θ Π House
<i>cl</i>	Morris Marshall Cohn.....	<i>Schenectady</i>	Z B T House
<i>ce</i>	Morris Merrill Cohn.....	<i>Schenectady</i>	K N House
<i>ch</i>	Edwin Wallace Colt.....	<i>Schenectady</i>	214 Parkwood Blvd.
<i>sc</i>	George Ira Coons.....	<i>Middleburgh</i>	Φ N Θ House
<i>sc</i>	Thalen Leon Cross.....	<i>Burlington, Vt</i>	Φ Γ Δ House
<i>cl</i>	Francis Charles Culkin.....	<i>Fulton</i>	Δ Θ House
<i>ce</i>	James Westford Cutler.....	<i>Westfield, N. J</i>	Σ Φ Place
<i>sc</i>	Charles Gay Davis, Jr.....	<i>Madison, N. J</i>	Σ Φ Place
<i>sc</i>	Melville Day Dickinson, Jr.....	<i>Troy</i>	Φ Δ Θ House
<i>sc</i>	Orin Leslie Donald.....	<i>Middletown</i>	Φ Γ Δ House
<i>sc</i>	Arthur Edwin DuBois.....	<i>Bethel</i>	Φ N Θ House
<i>ee</i>	Howard Kenneth Dunbar.....	<i>Lowville</i>	1238 Union St.
<i>sc</i>	Edgar Daniel Dunning.....	<i>Ilion</i>	Φ Γ Δ House
<i>ce</i>	Eugene Stevens Fisher.....	<i>Englewood, N. J</i>	Old Gym. Dorm.
<i>ee</i>	James Harvey Ford.....	<i>Little Falls</i>	Δ T House
<i>ee</i>	Charles Edward Gardiner, Jr...	<i>Johnstown</i>	M. S. S. C.
<i>sc</i>	Stanley Livingstone Garnjost...	<i>Yonkers</i>	B Θ Π House
<i>sc</i>	Harry Paul Gaynor.....	<i>Malone</i>	2 Beaver St.
<i>sc</i>	John Everett Glenn.....	<i>Elsmere</i>	Σ Φ Place
<i>ee</i>	George Gordev.....	<i>Petrograd, Russia</i>	M. S. N. C.
<i>sc</i>	Harold Miller Hallenbeck.....	<i>Hudson</i>	Δ T House

sc	Thomas Roland Hanrahan.....	Schenectady..16	So. Wendell Av.
ce	Charles Fairchild Harnish.....	Honeoye Falls.....	B Θ Π House
sc	Frederick Bernard Hartnett....	Fulton.....	Φ Δ Θ House
cl	Oswald David Heck.....	Schenectady.....	32 Columbia St.
sc	Edwin Richard Hemstreet.....	Mechanicville.....	Δ Θ House
sc	John Mauger Hewlett.....	Schenectady.....	70 Union Av.
sc	Clifton Alfred Nicholas Hill....	Amsterdam.....	Old Gym. Dorm.
sc	Clarence Raymond Hix.....	Fort Plain.....	Δ Φ House
sc	John Clarke Holmes.....	Katonah.....	K A Lodge
sc	Ernest Morrell Hotaling.....	Cooperstown.....	Δ T House
ee	Edson Deloss Huntley.....	New Woodstock..30	Bedford Rd.
ce	John Robert Johnson.....	Andes.....	Pyramid Club
ce	Edward Montgomery Jones....	Syracuse.....	Δ X A House
sc	Douglas White Joslyn.....	Albany.....	Ψ T House
ee	Francis Golden Kennedy.....	Elmhurst.....	307 Seward Pl.
ce	William Bernard Kingston.....	Little Falls.....	Δ T House
cl	George Henry Kling.....	West Sand Lake.....	N. S. N. C.
sc	Arthur Henry Lamborn.....	Albany.....	207 Kent St., Albany
ee	Hiram Ivan Lamphier.....	Berlin.....	Φ N Θ House
sc	Lauriston Job Lane.....	Sao Paulo, Brazil.....	Σ Φ Place
sc	William Francis La Pan.....	Saranac Lake.....	Δ T House
sc	William Martin Leonard.....	Schenectady.....	405 Lenox Rd.
sc	Jasper Samuel Levine.....	Schenectady.....	43 Wendell Av.
ee	Maurice Lewis Levy.....	Rochester.....	K N House
ce	Ernest Glenn Liberty.....	Rotterdam Jct.....	Φ N Θ House
ce	Theodore Lifset.....	Schenectady.....	K N House
sc	Gilbert Robert Livingston.....	Nutley, N. J.....	Σ Φ Place
ee	Richard Wood Lottridge.....	Stillwater.....	Pyramid Club
ee	Donald Clute Mackintosh.....	Schenectady.....	3 Gillespie St.
sc	John Thomas Manion.....	Herkimer.....	Old Gym Dorm.
sc	Kenneth McIntyre	Watervliet.....	Δ Θ House
sc	Clinton Burdick Morgan.....	Rockville Centre....	B Θ Π House
sc	Charles Edward Munsell, Jr....	Schenectady.....	51 Haigh Av.
sc	Alvin Frederick Nitchmann....	Schenectady..1009	Washington Av.
ee	Wallace Crawford Palmer.....	Woodhaven.....	K A Lodge
sc	Robert Henry Pidge.....	Fultonville.....	Fultonville
sc	Harry Nery Pitt, Jr.....	Albany.....	Φ Δ Θ House
ph	Charles Rodney Pitts.....	Schenectady.....	8 Wanmer St.

<i>sc</i>	Willard Augustus Pleuthner.....	<i>Buffalo</i>	A Δ Φ House
<i>ce</i>	Joel Sconce Poorman.....	<i>Cincinnati, O.</i>	49 Wendell Av.
<i>sc</i>	Harold John Potts.....	<i>Bethel</i>	Φ N Θ House
<i>ee</i>	Raoul William Racette.....	<i>Schenectady</i>	232 Bradley St.
<i>ch</i>	George David Read.....	<i>Bath</i>	K Φ Lodge
<i>sc</i>	William Reid, Jr.....	<i>Schenectady</i>	1025 Delamont Av.
<i>ch</i>	Neil Bailey Reynolds.....	<i>Scotia</i>	24 Riverside Av., Scotia
<i>sc</i>	Frederick William Ritz.....	<i>Sag Harbor</i>	Δ X A House
<i>ce</i>	Morris Roses.....	<i>Schenectady</i>	219 Second Av.
<i>ee</i>	Roger Pritchard Rynders.....	<i>Syracuse</i>	Δ X A House
<i>sc</i>	Hyman Sacheroff.....	<i>Schenectady</i> ...	304 Congress Street
<i>ph</i>	Harold Lavern Saxton.....	<i>Fort Plain</i>	Φ Γ Δ House
<i>sc</i>	Philip Benjamin Schamberger..	<i>Gloversville</i>	Pyramid Club
<i>sc</i>	Edward Charles Schroedel....	<i>Rochester</i>	Φ Δ Θ House
<i>ph</i>	Laurence Frederic Shaffer.....	<i>Johnstown</i>	N. S. S. C.
<i>sc</i>	John Redmond Sheehan, Jr....	<i>Schenectady</i>	B Θ Π House
<i>ce</i>	John Banks Sherwood.....	<i>Southport, Conn.</i>	Δ Υ House
<i>sc</i>	Clarke Winship Slade.....	<i>Albany</i>	Δ Φ House
<i>sc</i>	Douglas Small.....	<i>Schenectady</i>	16 Lake Blvd.
<i>ee</i>	Earl Edward Steinert.....	<i>Schenectady</i>	805 Craig St.
<i>cl</i>	William Patrick Stewart.....	<i>Buffalo</i>	X Ψ Lodge
<i>ce</i>	Burton Augustus Stilson.....	<i>Franklin</i>	Δ Φ House
<i>ee</i>	Walter Roland Stock.....	<i>Anniston, Ala.</i>	844 Union St.
<i>sc</i>	Andrew Jackson Switzer.....	<i>Bath</i>	Δ Θ House
<i>sc</i>	Harold Edward Townsend....	<i>Amsterdam</i>	Φ Γ Δ House
<i>ph</i>	James Henry Turnbull.....	<i>Schenectady</i>	1 Parkwood Blvd.
<i>sc</i>	Benjamin Robertson Turner, Jr.	<i>Mt. Sterling, Ky.</i>	Φ Δ Θ House
<i>cl</i>	Horace Silliman Van Voast, Jr.	<i>Schenectady</i>	1401 Union St.
<i>ch</i>	Arthur Andrew Vernon.....	<i>Schenectady</i>	703 Crane St.
<i>sc</i>	Cecil Myers Waterbury.....	<i>East Schodack</i>	Δ Υ House
<i>sc</i>	Edwin Payne Waterman.....	<i>Little Falls</i>	Δ Υ House
<i>ee</i>	Warren W. White.....	<i>Pittsford</i>	Δ Υ House
<i>ce</i>	William Stanley Wilcox.....	<i>Ballston Lake</i>	211 Nott Ter.
<i>cl</i>	Elwyn Donald Wilsey.....	<i>Greenfield Center</i> ...	Δ X A House
<i>sc</i>	Theodore Frame Wilson.....	<i>Schenectady</i>	7 Avon Rd.
<i>sc</i>	Charles Stanley Wright.....	<i>Newark</i>	B Θ Π House

Sophomores, Class of 1925

<i>ac</i>	Robert Henry Abrahamson.....	<i>New York City</i>	Z B T House
<i>ee</i>	Kingsley Warhurst Aldridge...	<i>Brooklyn</i>	K A Lodge
<i>ac</i>	Kenneth MacLean Archibald...	<i>Cohoes</i> ...263 Remsen St., Cohoes	
<i>ac</i>	Leslie Homer Backus.....	<i>Schenectady</i> ...1001 Delamont Av.	
<i>ce</i>	William Walker Baird.....	<i>Gloversville</i>	Φ Γ Δ House
<i>ch</i>	Howard Ellsworth Baker.....	<i>Schenectady</i>	1833 Broadway
<i>ee</i>	Harold Norton Barnes.....	<i>Little Falls</i>	Δ Υ House
<i>ee</i>	Henry West Baukat.....	<i>Batavia</i>	X Ψ Lodge
<i>ce</i>	Clare Franklin Beames, Jr....	<i>Yonkers</i>	A Δ Φ House
<i>ac</i>	Guy Beattie.....	<i>Watervliet</i>	K Φ Lodge
<i>ee</i>	Leslie Laurence Beehring.....	<i>Schenectady</i> ..219 Van Vrank'n Av.	
<i>ee</i>	Ralph Bertil Bernson.....	<i>Schenectady</i>	R. F. D. 7
<i>ee</i>	Igor Sergeewick Bobrovsky....	<i>Petrograd, Russia</i>	N. S. S. C.
<i>ee</i>	Alvin Paul Boettcher.....	<i>West Albany</i>	A Γ Φ Lodge
<i>ee</i>	Nelson Botsford	<i>Rutherford, N. J.</i>	Δ Υ House
<i>ac</i>	Henry Austin Brand.....	<i>Central Bridge</i>	Ψ Υ House
<i>ac</i>	Leon Wono Brown.....	<i>Schenectady</i>	735 Albany St.
<i>ee</i>	James Wayne Brubaker.	<i>Mountain View, N. J.</i> ..	Δ Φ House
<i>ac</i>	Franklin Farbridge Bruder....	<i>New York City</i>	Ψ Υ House
<i>ac</i>	Thomas Kennedy Bruton.....	<i>East Orange, N. J.</i> ..	B Θ Π House
<i>ac</i>	Charles Petford Buckley, Jr....	<i>Baldwin</i>	Δ Φ House
<i>ac</i>	George Melville Campbell.....	<i>Bronxville</i>	B Θ Π House
<i>pm</i>	Robert Ellsworth Carter.....	<i>Albany</i> 94 Third St., Albany	
<i>ce</i>	William John Chevalier.....	<i>Holyoke, Mass.</i>	K Φ Lodge
<i>ac</i>	Alan Lake Chidsey.....	<i>Easton, Pa.</i>	A Δ Φ House
<i>pm</i>	Gilbert Arden Clark.....	<i>North Troy</i>	1007 Nott St.
<i>ac</i>	Benjamin Edwin Cohen.....	<i>Glens Falls</i>	K N House
<i>ac</i>	Hiram Edward Cornell.....	<i>Schenectady</i>	101 Foster Av.
<i>ac</i>	Herman Crannell.....	<i>Schenectady</i>	A Δ Φ House
<i>ce</i>	Wallace Barnes Curtis.....	<i>Berwyn, Pa.</i>	X Ψ Lodge
<i>pm</i>	Elbert Dalton.....	<i>Schenectady</i>	A Δ Φ House
<i>ee</i>	George Ernest Dana.....	<i>Cooperstown</i>	Φ N Θ House
<i>ac</i>	Everett Davenport	<i>Schenectady</i>	11 Chestnut St.
<i>ee</i>	Gordon Waterman Davison....	<i>Worcester</i>	Old Gym Dorm.
<i>ee</i>	James Ayers Dawson.....	<i>Schenectady</i>	110 Elm St.
<i>ch</i>	William Worden Day.....	<i>Schenectady</i>	R. F. D. 7

<i>ac</i>	Kenneth Delmondt Dean.....	<i>Schenectady</i>	16	Eagle St.
<i>ac</i>	David McClellan De Forest....	<i>Schenectady</i>	115	Henry St.
<i>ee</i>	Austin Joseph Deming.....	<i>Elizabethtown</i>	Δ X A	House
<i>ee</i>	Clarence Dey	<i>Johnstown</i>	M. S. N. C.	
<i>ee</i>	Henry Ellis Dodd.....	<i>Bogota, N. J.</i>		Pyramid Club
<i>ee</i>	Harold Alvin Dorn.....	<i>Schenectady</i>	121	Elmer Av.
<i>ac</i>	Philip Hunter Du Bois.....	<i>Catskill</i>	Ψ T	House
<i>ac</i>	Lewis Orr Dunn.....	<i>Scotia</i>	16	Cuthbert St., Scotia
<i>pm</i>	John Michael Dunphy.....	<i>Schenectady</i>	9	Gillespie St.
<i>ch</i>	Edward William Engel... <i>Amsterdam</i> ..		24	Bunn St., Amsterdam
<i>ac</i>	Donald Failing.....	<i>New York City</i>	Δ Φ	House
<i>ch</i>	Robert Edwin Felton.....	<i>Schenectady</i>	1529	Union St.
<i>ac</i>	John Giles Ferres, II.....	<i>Johnstown</i>	X Ψ	Lodge
<i>ac</i>	Samuel Feur.....	<i>Schenectady</i>	634	Chrisler Av.
<i>ce</i>	James Kenneth Fraser.....	<i>Johnstown</i>	Φ Σ K	House
<i>ce</i>	Gordon Leslie Frohlich.....	<i>Amsterdam</i>	M. S. S. C.	
<i>ee</i>	Theodore Ganung	<i>West Haven, Conn.</i> ..	K Φ	Lodge
<i>ee</i>	Eric Berger Gardell.....	<i>Oakhurst, N. J.</i>	Φ N Θ	House
<i>pm</i>	George Albert Gilbert.....	<i>Schenectady</i>	1007	Nott St.
<i>ac</i>	Jacob David Glaubach.....	<i>Brooklyn</i>		North Colonnade
<i>ac</i>	Leland Holsapple Goddard....	<i>Schenectady</i>	225	Nott Terrace
<i>ac</i>	Nathan Harris Goldstein.....	<i>Schenectady</i>	64	Robinson St.
<i>ch</i>	Marcus Myer Graubart.....	<i>Schenectady</i>	K N	House
<i>cl</i>	Russell Lester Greenman.....	<i>Albany</i>	X Ψ	Lodge
<i>ee</i>	Sylvester Jacob Haefner.. <i>Rensselaer</i> ..		1562	Fourth St., Rensselaer
<i>cl</i>	Elmer Nicholas Haley.....	<i>Scotia</i>	22	Halcyon St., Scotia
<i>ce</i>	Ernest Albert Hawes.....	<i>Schenectady</i>	6	Euclid Av.
<i>ee</i>	Reuben Dexter Head.....	<i>Medusa</i>		Old Gym Dorm.
<i>ee</i>	John Alfred Hearn.....	<i>Schenectady</i>	Δ X A	House
<i>ee</i>	Clarence Alfred Helene.....	<i>Salamanca</i>	9	Gillespie St.
<i>ac</i>	Isaac Meyer Hinden.....	<i>Schenectady</i>	414	Hulett St.
<i>ac</i>	Jeremiah Israel Hinden.....	<i>Schenectady</i>	414	Hulett St.
<i>pm</i>	William Alfred Horwitz.....	<i>Albany</i>	203	McClellan St.
<i>ac</i>	Francis Aubrey Howard.....	<i>Norwalk, Conn.</i>		Pyramid Club
<i>ac</i>	Robert Lee Hoxie.....	<i>St. Louis, Mo.</i>	X Ψ	Lodge
<i>ac</i>	James Reed Davidson Hummer.	<i>Ravena</i>	K A	Lodge
<i>ee</i>	Amos Blinn Jaquith.....	<i>Schuylerville</i>	K Φ	Lodge
<i>ac</i>	Leland Stephen Jones.....	<i>Cobleskill</i>	Δ Θ	House

ac	Harry Kaplan.....	Margaretsville	K N House
ac	Norman Dudley Kathan.....	Schenectady.....	Λ X A House
ee	William Joseph Keegan.....	Ferndale.....	K Φ Lodge
ac	Paul Kells	Wilmington, N. C.....	Ψ T House
ee	Knud Elmer Kjolseth.....	Scotia.....	136 Vley Rd., Scotia
ac	Lester Leroy Klapper.....	Schenectady.....	44 Snowden Av.
ce	Arthur Alan Klein.....	Schenectady.....	316 Germania Av.
ce	Gulick Zeitler Knight.....	Rochester.....	Φ Γ Δ House
ce	Ernest Richard Koth.....	Austin, Penna.....	Φ Γ Δ House
ac	Walter William Law, 3d.....	Albany.....	75 Elk St., Albany
ac	David Edward Le Favour.....	Amsterdam.....	A Δ Φ House
ac	Ralph Newton Litzell.....	Albany.....	Φ Δ Θ House
ee	Worthington Compton Lent....	Ridgefield Park, N. J..	Δ Θ House
ch	Henry Adolph Letteron	Scotia.....	49 Holmes St., Scotia
ee	John Albert Lincoln.....	Schenectady.....	Pyramid Club
ac	Francis Furbeck Long.....	Albany.....	Δ T House
ac	Daniel Pettinger Loomis.....	Burlington, Vt.....	Φ Δ Θ House
ac	Malcolm Gilchrist Marks.....	Gloversville.....	Φ Δ Θ House
pm	Frank Marra	Schenectady.....	12 No. Center St.
ac	Harold Edgar Martin.....	Holyoke, Mass.....	Λ X A House
ce	Lewis Warren Mauger.....	Schenectady.....	29 Parkwood Blvd.
ee	Elmer Dale McArthur.....	Salamanca.....	N. S. S. C.
ac	Evalon Artemus Merritt.....	New Hartford.....	Φ Σ K House
ee	Albert Edward Milligan, Jr....	Schuylerville.....	A Γ Φ Lodge
pm	George Ross Mills.....	Highland Lake.....	Φ N Θ House
ee	Wilbur Adams Moore.....	Cranford, N. J.....	30 Union Av.
ee	Henry Cobb Brooks Morris....	Schenectady.....	1202 Eastern Av.
pm	John Fayette Mosher.....	Northville.....	Pyramid Club
ce	Edwin Paul Neilson.....	Buffalo.....	Φ Σ K House
ce	Edward Lewis North.....	Fish's Eddy.....	Ψ T House
ac	George Clemens Ostendorf....	Buffalo.....	Δ T House
ac	Acker Ottman	Schenectady.....	Λ X A House
pm	Max Emanuel Panitch.....	Nassau.....	K N House
ac	Howard Eager Pierson.....	Warwick.....	Pyramid Club
ac	Richard Merle Poole.....	Rockville Centre.....	Δ Θ House
cl	John Snare Post.....	Troy.....	34 N. Wendell Av.
ee	Earl William Powell.....	Schenectady.....	1233 Campbell Av.
ce	Thomas Edwin Pritchard.....	Granville.....	1007 Nott St.

<i>ee</i>	Krishnaji Manohar Ratnaparkhi.	<i>Munsiff, India</i>	233 Liberty St.
<i>ac</i>	Edmund Bush Redington.....	<i>Waverly</i>	Ψ T House
<i>ch</i>	James Carter Rice.....	<i>Schenectady</i>	117 Foster Av.
<i>ac</i>	MacLaren Richards.....	<i>Hudson Falls</i>	Ψ T House
<i>pm</i>	John Paul Rinaldi.....	<i>Schenectady</i>	7 Main Av.
<i>ee</i>	Cornelius Philip Robinson.....	<i>Walton</i>	Φ Σ K House
<i>ee</i>	Lewis Robinson	<i>Schenectady</i>	B Θ Π House
<i>pm</i>	Robert Edward Ross.....	<i>Schenectady</i>	14 Lakewood Av.
<i>ac</i>	Dudley Leon Rowledge.....	<i>Ballston Lake</i>	Φ Σ K House
<i>ee</i>	Christian Rumpff	<i>Plattsburg</i>	Φ N Θ House
<i>pm</i>	Hopson Nelson Rust.....	<i>Rensselaer</i> ..	1497 Third St., Rensselaer
<i>ee</i>	Raymond Thomas Rust.....	<i>Tribes Hill</i>	206 Park Av.
<i>ee</i>	William Church Hall Ryon....	<i>Poughkeepsie</i>	X Ψ Lodge
<i>ee</i>	Marcus Joseph Salerno.....	<i>Clyde</i>	Old Gym Dorm.
<i>ac</i>	Lee Schapiro.....	<i>New York City</i>	Z B T House
<i>pm</i>	Kalmon Wellington Schneider..	<i>Nassau</i>	K N House
<i>ch</i>	Francis Frederic Schwentker..	<i>Schenectady</i> ..	12 N. Wendell Av.
<i>ch</i>	Herbert Wells Secor.....	<i>Savanna, Ill.</i>	908 Albany St.
<i>ee</i>	Neil Cochrane Simpson.....	<i>Tuxedo Park</i>	K Φ House
<i>pm</i>	John Peter Siurbis.....	<i>Amsterdam</i>	60 Raymond St.
<i>ac</i>	Floyd Arthur Smith.....	<i>Schenectady</i> ..	41 Parkwood Blvd.
<i>ce</i>	Momlaung Chiew Snitwongse..	<i>Ayuthia, Siam</i>	N. S. S. S.
<i>ac</i>	John Warren Snyder.....	<i>Yonkers</i>	Pyramid Club
<i>ce</i>	Herbert Stone Soutar.....	<i>Bloomfield, N. J.</i>	N. S. N. C.
<i>ac</i>	Nathan Corliss Southworth....	<i>Maryland</i>	Δ Φ House
<i>ac</i>	Harold Bouton Spriggs.....	<i>Asbury Park, N. J.</i> ..	Φ N Θ House
<i>ac</i>	Edward Richard Stack.....	<i>Schenectady</i> ..	1046 Delamont Av.
<i>ee</i>	Leonard Stanley	<i>Albany</i>	Φ Δ Θ House
<i>ce</i>	Howard Steigerwald.....	<i>Auburn</i>	Φ Σ K House
<i>ac</i>	Alford Losette Stewart.....	<i>Margaretville</i>	Φ N Θ House
<i>ch</i>	Edward Christian Strube.....	<i>Schenectady</i>	35 Lafayette St.
<i>ac</i>	Sutherland Rugge Stuart.....	<i>Daytona, Fla.</i>	A Δ Φ House
<i>ee</i>	Robert Livingston Ten Broeck..	<i>Rhinebeck</i>	N. S. N. C.
<i>pm</i>	Willard Burrows Warring....	<i>Maybrook</i>	North Colonnade
<i>ac</i>	Arnold Ernest Weichert, Jr....	<i>Bloomfield, N. J.</i>	K A Lodge
<i>ac</i>	Thomas Weiss	<i>Schenectady</i>	327 Crane St.
<i>ee</i>	Gilbert Walter Welsh.....	<i>Watertown</i>	Φ Σ K House

<i>pm</i>	Maurice Sanford Wessell.....	<i>Schenectady</i>	215 Avenue A
<i>ac</i>	Henry Martin Weyrauch, Jr....	<i>Liberty</i>	N. S. S. C.
<i>ee</i>	Thomas Gale Whitney.....	<i>Mexico</i>	A Δ Φ House
<i>ee</i>	Howard James Whittaker.....	<i>Bloomfield, N. J.</i>	K Φ Lodge
<i>ee</i>	Edward Bacon Wilber.....	<i>Schenectady</i> ..	125 Glenwood Blvd.
<i>ee</i>	Wilford Donald Wilder.....	<i>Harrisville</i>	Φ Δ Θ House
<i>ee</i>	Claude Douglass Williams.....	<i>Elmira</i>	K Φ Lodge
<i>ee</i>	Burnett Harp Womack.....	<i>Spartanburg, S. C.</i>	123 Park Av.
<i>ee</i>	Clement Tallman Wood.....	<i>Spring Valley</i>	Φ N Θ House
<i>ac</i>	William H. Young.....	<i>Schenectady</i>	X Ψ Lodge

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Freshmen, Class of 1926

<i>ac</i>	Walter Miles Abbott.....	<i>Albany</i>	201 Kent St., Albany
<i>ee</i>	Charles Albert.....	<i>Brooklyn</i>	27 Columbia St.
<i>ee</i>	Donald Leslie Alfred.....	<i>Brooklyn</i>	X Υ Lodge
<i>ac</i>	Avery La Voy Allen.....	<i>Glens Falls</i>	K A Lodge
<i>pm</i>	Edward Sullivan Amato.....	<i>Poughkeepsie</i>	Old Gym Dorm.
<i>ac</i>	Henry Bradford Arthur.....	<i>Gloversville</i>	Pyramid Club
<i>pm</i>	Frank Albert Aussiker, Jr.....	<i>Schenectady</i>	25 Snowden Av.
<i>ee</i>	Zopher Franklin Babcock.....	<i>Bloomington</i>	756 Eastern Av.
<i>pm</i>	Rodney Wilber Ball.....	<i>Schenectady</i>	321 Harrison Av.
<i>ac</i>	Wentworth Huntington Barnes..	<i>Troy</i>	Σ Φ Pl.
<i>ac</i>	Edward Sabra Batash.....	<i>Albany</i>	Old Gym Dorm.
<i>ce</i>	Walden Chase Beames.....	<i>Yonkers</i>	A Δ Φ House
<i>ac</i>	John Appleton Beaumont.....	<i>Albany</i>	Φ Σ K House
<i>ee</i>	George Murvin Becker.....	<i>Claverack</i>	403 Summit Av.
<i>ee</i>	Virgil Arlando Beede.....	<i>Keene Valley</i>	103 Nott Ter.
<i>ac</i>	Owen Matthew Begley.....	<i>Schenectady</i>	910 Albany St.
<i>ac</i>	Robert Cheney Bemis.....	<i>Meriden, Conn.</i>	Ψ Υ House
<i>ee</i>	Arthur Lowell Bennett.....	<i>Williamson</i>	A Γ Φ House
<i>pm</i>	Duncan Leonard Best.....	<i>Middleburgh</i>	North Colonnade
<i>ce</i>	Arthur Riotte Birkins.....	<i>Bronxville</i>	B Θ Π House
<i>ee</i>	Storrs Myron Bishop, Jr.....	<i>Schenectady</i>	A Δ Φ House
<i>ac</i>	James Kent Blair.....	<i>Port Dickinson</i>	Σ Φ Pl.
<i>ee</i>	Richard William Bonneau.....	<i>Westport</i>	231 Union St.
<i>ce</i>	George Warren Borden.....	<i>Esperance</i>	1206 State St.

ac	Byron T. Borst.....	Cobleskill.....	Old Gym Dorm.
ac	Thomas Dickinson Boyles.....	Schenectady.....	Σ Φ Pl.
ac	William Gregory Bradshaw, Jr..	Saratoga Springs.....	N. S. N. C.
ac	Howard Gates Breeze.....	Albany.....	Ψ Υ House
ee	Edward John Broderick, Jr.....	Geneva.....	North Colonnade
ac	Reginald Lincoln Brooks.....	Schenectady..	207 Parkwood Blvd.
ce	Albert Crane Brown.....	Newark, N. J.....	N. S. S. C.
ac	Carl Curtis Bryant.....	Lockport.....	15 Morris Av.
ac	Harold Frederick Buckbee.....	Glens Falls....	Stop 16, Troy Rd.
ac	Frederick Henry Buckley.....	Baltimore, Md.	333 Glenw'd Blvd.
ee	Vernon Burns	North River.....	Old Gym Dorm.
ee	Arthur James Bushel.....	Tarrytown.....	S. S. S. C.
ac	Herman Wynn Bussman.....	Beechhurst.....	N. S. S. C.
ac	Stannard McLean Butler.....	Schenectady..	326 Glenwood Blvd.
ac	James Alister Cameron.....	Amsterdam.....	Φ Γ Δ House
ac	Frank William Campfield.....	Washington, D. C...	B Θ Π House
ee	Herbert Lee Canning.....	Utica.....	38 Glenwood Blvd.
ce	Thomas S. Cassidy.....	Gloversville.....	B Θ Π House
ac	Warren Thomas Chase.....	Altamont.....	M. S. S. C.
ee	William Earle Chase, Jr.....	Passaic, N. J.....	Σ Φ Pl.
ac	Edward Shannon Clark.....	Worcester.....	Δ Φ House
ac	Joseph Francis Clark.....	Schenectady.....	24 Garner Av.
ac	Fred Clieman.....	Schenectady.....	23 Centre St.
ee	Stewart Livingston Clothier....	Schenectady.....	R. F. D. 4
ac	George A. thur Collins.....	Gloversville.....	Δ Φ House
ee	Roy Elmendorf Collins.....	Hartford, Conn.....	24 Nott Ter.
ce	John Thomas Comeskey.....	Troy.....	Δ Φ House
ac	Donald Coon.....	Ghent.....	M. S. N. C.
ac	Carleton Morris Cooley.....	Fultonville.....	Pyramid Club
ee	George Francis Cox.....	Yonkers.....	K Φ House
ee	Robert Vaughen Cox.....	West Lynn, Mass.....	K Δ Lodge
ee	Donald Leonard Cramer.....	Holyoke, Mass.....	Σ Φ Pl.
ee	Walter Read Crocker.....	Utica.....	Φ Γ Δ House
ee	Edgar Laurence Davidson.....	South Kortwright.....	I Eagle St.
ee	John Augustus Davis.....	So. Williamson, Mass.,	103 Nott Ter.
ac	Alexander Diamond.....	Schenectady.....	318 Hulett St.
cl	Arthur John Dick.....	Flushing.....	Δ Υ House

ee	Ronald Alexander Dickson.....	Bloomfield, N. J.....	K A Lodge
ac	Quentin Dinardo.....	Schenectady..	702 Van V'ken Av.
ac	Henry Alexander Dinegar.....	Albany.....	Ψ T House
ee	Leslie Edwin Diven.....	Little Falls.....	Δ Θ House
ac	John J. Donohue.....	Albany.....	North Colonnade
ac	Maurice Anthony Donovan.....	Fulton.....	Δ Θ House
ac	Stanley Dreifus.....	Alexandria, Va.....	K N House
ce	George Chalmers Duguid.....	Schenectady....	1405 East. P'kway
ee	George Jay Dunn.....	Utica.....	38 Glenwood Blvd.
ac	Clarence Henry Edmonds.....	Amsterdam.....	Φ Γ Δ House
ee	Alfred Anthony Egenhofer.....	Raquette Lake.....	N. S. N. C.
ee	Frederick Beekman Eldridge....	Johnstown.....	30 Baker Av.
ee	Angelo English.....	Port Chester.....	Φ Σ K House
pm	John Anthony Enzien.....	Mechanicville..	208 Van V'ken Av.
ee	Laurence Nelson Eveleth.....	Rensselaer..	1032 Fourth St., Rensselaer
ch	Reuben Elmer Failing, Jr.....	Little Falls.....	313 Lennox Rd
pm	Murray Edward Feinburg.....	Albany, 23 Lawnridge Av., Albany	
ce	James Alton Ferguson.....	Schenectady.....	18 Catherine St.
ee	Arthur Gorden Ferriss.....	Utica.....	S. S. S. C.
ac	John Henry Fink, Jr.....	Niskayuna.....	Niskayuna
ac	Paul Jacob Fink.....	Allentown, Pa.....	Φ Γ Δ House
pm	George Finke.....	Schenectady.....	14 Congress St.
ce	Frederick Carl Fox, Jr.....	Schenectady....	136 McClellan St.
ce	Robert Charles Fox.....	Yonkers.....	B Θ Π House
ee	Russell Benedict Fox.....	Carthage.....	844 Union St.
ac	Elwyn Henry Freeman.....	Plattsburg.....	Φ Δ Θ House
ee	Raymond George Freeman.....	Gloversville.....	Φ Σ K House
pm	Arthur Fyfe, Jr.....	Brooklyn.....	642 Terrace Pl.
pm	Louis Gaetano.....	Schenectady.....	533 Paige St.
ee	Albert Barber Sprague Gallup..	Moosup, Conn.....	Δ Θ House
ac	John Emerson Gibbs.....	Guilford.....	Ψ T House
ee	Maurice Albert Gilbert.....	Norwich.....	1236 Union St.
ce	Robert Newton Gillespie.....	Allentown, Pa.....	Ψ T House
ac	Ambrose Haskell Gilligan.....	Whitehall.....	Λ X A House
pm	Philip Giuffe.....	Amsterdam.....	S. S. N. C.
ac	Morris Aaron Gold.....	Schenectady....	302 Congress St.
ac	William Golub.....	Schenectady.....	615 Lenox Rd.

<i>ce</i>	Milton Elwyn Goul.....	<i>Schenectady</i>	213 Victory Av.
<i>ee</i>	Arthur Brown Gray, Jr.....	<i>Schenectady</i>	1644 State St.
<i>ch</i>	Walter Gucz.....	<i>Schenectady</i>	208 Holland Rd.
<i>pm</i>	Donald Clarkson Guyer.....	<i>Albany</i>	Φ Σ K House
<i>pm</i>	Hallett Stuart Gwynn.....	<i>Albany</i>	127 Second St., Albany
<i>ee</i>	Harry Hepburn Hall.....	<i>Beirut, Syria</i>	B Θ Π House
<i>ac</i>	Howard Wellman Hall.....	<i>Schenectady</i>	910 Union St.
<i>ac</i>	Guy Cawgill Hamilton.....	<i>Long Island City</i> ...	Pyramid Club
<i>ee</i>	Edwin Woodworth Hamlin....	<i>Hartford, Conn.</i>	N. S. N. C.
<i>ce</i>	Rowland Bath Hammond.....	<i>Schenectady</i>	803 Lincoln Av.
<i>ee</i>	Clarence Everett Harris.....	<i>Watertown</i>	Old Gym Dorm.
<i>ac</i>	Leslie Samuel Harrison.....	<i>Schenectady</i>	10 Forest Rd.
<i>ee</i>	Edward Dwight Hatch.....	<i>Monticello</i>	Φ Γ Δ House
<i>ac</i>	Stuart Zeh Hawkes.....	<i>Newark, N. J.</i>	Σ Φ Π I.
<i>ac</i>	Rowland Patterson Heatly.....	<i>Schenectady</i>	X Ψ Lodge
<i>ce</i>	Arthur John Heidrick.....	<i>Albany</i>	Δ X A House
<i>ee</i>	Robert Stevens Herbert, Jr....	<i>N. Brunswick, N. J.</i>	Φ Δ Θ House
<i>ce</i>	Paul Marriott Hewlett.....	<i>Schenectady</i>	70 Union Av.
<i>ce</i>	Herbert Raymond Hinman....	<i>Albany</i>	X Ψ Lodge
<i>pm</i>	George Carl Hock.....	<i>Newark, N. J.</i>	K Φ Lodge
<i>pm</i>	William Joseph Hoffman.....	<i>Troy</i>	S. S. S. C.
<i>ac</i>	Walter Augustus Horstmyer....	<i>Schenectady</i>	R. F. D. 7
<i>pm</i>	Ralph James Hotchkiss.....	<i>Schenectady</i>	405 Avenue B
<i>ce</i>	George William Hull.....	<i>Schenectady</i>	42 Ballston Rd.
<i>ce</i>	Frank Stuart Hunt, Jr.....	<i>Yonkers</i>	Φ Δ Θ House
<i>ch</i>	Earl D. Hutchinson....	<i>Amsterdam</i> ...	56 Arnold Av., Amsterdam
<i>ac</i>	Edward Maxwell Iverson.....	<i>Schenectady</i>	11 Forest Rd.
<i>ac</i>	Allen Jackson.....	<i>Newton Centre, Mass.</i>	Ψ T House
<i>ch</i>	John Alfred Jackson.....	<i>Albion</i>	Δ T House
<i>ac</i>	Samuel Jacobs.....	<i>Amsterdam</i>	34 Bartlett St., Amsterdam
<i>ch</i>	Edward Van Kluck Jaycox....	<i>Beacon</i>	Φ Γ Δ House
<i>ee</i>	Cole Esker Johnson.....	<i>Canastota</i>	Δ X A House
<i>ee</i>	Shelly Llewellyn Jones.....	<i>Brooklyn</i>	K A Lodge
<i>ac</i>	Walter Marion Joyce.....	<i>Amagansett</i>	9 Gillespie St.
<i>ee</i>	Otto William Kaiser.....	<i>New York City</i>	M. S. N. C.
<i>pm</i>	James Peter Kalteux.....	<i>Schenectady</i>	44 Linden St.
<i>pm</i>	Samuel Theodore Katz.....	<i>Albany</i>	46 Ontario St., Albany

ee	Leon John Keller.....	Newark.....	2 No. Wendell Av.
ac	John George Kelsch.....	Erie, Pa.....	X Ψ Lodge
pm	Dwinal Grant Kerst.....	Schroon Lake.....	S. S. N. C.
ee	Arthur Eugene Kerwien, Jr.....	Fort Lee.....	M. S. N. C.
ce	Clement Regua Ketterson.....	North Troy.....	Δ Φ House
pm	Gustin Thomas Kiffney.....	Johnstown.....	998 Eastern Av.
ee	Werner William Klingler.....	Schenectady.....	403 Summit Av.
ac	Clarence George Kunze.....	Middletown, Conn....	Φ N Θ House
ce	Wilfrid Latta.....	Habana, Cuba.....	Δ Φ House
ac	Richard Charles Laughlin.....	Anderson, S. C.....	X Ψ Lodge
ee	Lee Edwin La Vanture.....	Carlisle, Pa.....	Λ X A House
ee	Edward John Leifheit.....	Port Washington.....	S. S. N. C.
pm	Howard David Russell Lester..	Schenectady.....	1852 State St.
ac	Thos. Howard Augustine Lewis.	North Troy.....	Φ Δ Θ House
ac	Alexander Hynd Lindsay, Jr...	Schenectady.....	Δ Φ House
ac	Harold Nathan Lowe.....	Schenectady.....	110 Parkwood Blvd.
ac	Grant Lyons, Jr.....	Bridgeport, Conn....	Hotel Dorff
ee	Frederick Charles MacKenzie..	Port Henry.....	914 Avenue B
ac	Frederick Joseph Maisel.....	Brooklyn.....	K A Lodge
ac	Sigmond Makofski.....	Schenectady.....	107 DeGraff St.
ch	Cecil Stites Mapes.....	Middletown.....	K Φ Lodge
ee	Fred St. John Mapes.....	Middletown.....	K Φ Lodge
ac	William Frank Marquet.....	New York City.....	M. S. N. C.
ee	Richard Maynard Marshall, Jr..	Beaufort, S. C.....	Σ Φ Pl.
ee	David Curtis Martin.....	Schenectady.....	215 Park Pl.
ac	Earl Staley Martin.....	Schenectady.....	314 Parkwood Blvd.
ee	Karl Philip Marx.....	Schenectady.....	816 Lincoln Av.
pm	J. Lawrence Hogeboom Mason.	Fairport.....	642 Terrace Pl.
ce	Emmett Charles Mattern.....	West Rush.....	B Θ II House
ee	William Valentine Mauer.....	Liberty.....	N. S. S. C.
ac	Robert Charles McCord.....	Mineola.....	Pyramid Club
ac	Francis Philip McGowan.....	Schenectady.....	148 Elmer Av.
ac	James John McGuinness, Jr....	Albany.....	Λ X A House
ee	Joseph Charles McIlwaine.....	Plattsburg.....	Old Gym Dorm.
ph	William Augustine McNamara..	Schenectady.....	122 Parkwood Blvd.
pm	Thomas Earl McQuade.....	Watervliet.....	411 3d Av., Watervliet
ee	James Malcolm McSweyn.....	Memphis, Tenn.....	M. S. N. C.

<i>pm</i>	Anton Francis Miorin.....	<i>Troy</i>	197 Hill St., Troy
<i>ee</i>	Albert Leonard Monck.....	<i>Plainfield, N. J.</i>	Δ X A House
<i>ee</i>	Raymond Edward Murphy.....	<i>Amsterdam</i>	Old Gym Dorm.
<i>ac</i>	Thomas Edmund Murray.....	<i>Schenectady</i>	131 Elm St.
<i>pm</i>	Ronald Edwards Mussey.....	<i>Cohoes</i>	115 Nott Ter.
<i>ee</i>	Harold Arthur Nadeau.....	<i>Crown Point</i>	Φ Γ Δ House
<i>ac</i>	Ogden Hoffman Neely.....	<i>Rochester</i>	B Θ Π House
<i>cl</i>	Nathan J. Newburger.....	<i>Amsterdam</i>	N. S. N. C.
<i>ee</i>	Edwin Paul Nill.....	<i>Watertown</i> ..	South Lane, College Campus
<i>ch</i>	James Edward O'Brien.....	<i>Schenectady</i>	7 Linden St.
<i>ch</i>	Maurice Victor Odquist.....	<i>Yonkers</i>	N. S. N. C.
<i>ac</i>	William E. Oshei.....	<i>Buffalo</i>	A Δ Φ House
<i>pm</i>	Alfonse Pacini.....	<i>New York City</i>	S. S. N. C.
<i>ac</i>	Franklin McMullen Page.....	<i>Chappaqua</i>	A Δ Φ House
<i>ee</i>	Charles Babbitt Parker.....	<i>Johnstown</i>	N. S. N. C.
<i>ee</i>	Jesse Parker.....	<i>Albany</i> ..	25 N. Pine Av., Albany
<i>ee</i>	Arno Pause.....	<i>New York City</i>	N. S. N. C.
<i>ee</i>	Charles Wellington Personius...	<i>Elmira Heights</i>	K Φ Lodge
<i>ac</i>	Ernest Burger Peterson.....	<i>Schenectady</i>	31 Waverly Pl.
<i>ce</i>	Joseph Augustus Powers.....	<i>Albany</i>	Φ Δ Θ House
<i>ac</i>	Edward Kingsman Pritchard...	<i>Charleston, S. C.</i>	K A Lodge
<i>ac</i>	Frederick Fairchild Quinlan....	<i>Amsterdam</i>	Ψ Υ House
<i>ee</i>	Leslie Egbert Read.....	<i>Penn Yan</i>	M. S. N. C.
<i>ac</i>	Andrew Jerome Rich.....	<i>Buffalo</i>	Σ Φ Pl.
<i>ac</i>	Charles Harper Richardson, Jr.	<i>Pittsfield, Mass.</i>	Σ Φ Pl.
<i>ac</i>	Frederick Cornelius Richartz...	<i>Albany</i>	North Colonnade
<i>ac</i>	John Paul Riley, Jr.....	<i>Schenectady</i>	9 Stratford Rd.
<i>ac</i>	Laurence Martin Ring.....	<i>Rochester</i>	Z B T House
<i>ac</i>	James Harold Ripton.....	<i>Johnstown</i>	Δ Φ House
<i>ch</i>	George Paul Ritter.....	<i>Scotia</i>	Scotia, R. D. 8
<i>cl</i>	Hubbell Robinson, Jr.....	<i>Schenectady</i>	A Δ Φ House
<i>ee</i>	Clarence Bartlett Rogers.....	<i>Cooperstown</i>	1671 Union St.
<i>ee</i>	Donald Lyman Ross.....	<i>Flemington, N. J.</i>	M. S. S. C.
<i>ee</i>	John Kasper Roth.....	<i>Brooklyn</i>	K Φ House
<i>pm</i>	Fortunate Evaniste Roy.....	<i>Cohoes</i> ..	53 Lancaster St., Cohoes
<i>ee</i>	David McQueen Russell, Jr.....	<i>Oswego</i>	Δ X A House
<i>ac</i>	Joseph John Russo.....	<i>Albany</i>	4 Elm St., Albany

<i>ac</i>	Arthur Samuels.....	<i>Mount Vernon</i>	Z B T House
<i>ee</i>	Austin Moses Sarr.....	<i>Albany</i>	Φ Δ Θ House
<i>ac</i>	Mark David Scher.....	<i>Mount Vernon</i>	Z B T House
<i>ee</i>	Nelson Charles Schwenker....	<i>Schenectady</i>	126 Park Av.
<i>ee</i>	Seaton Mackenzie Scott, Jr....	<i>Brooklyn</i>	Ψ T House
<i>ac</i>	Carroll Humphrey Seabury....	<i>Ballston Lake</i>	Ballston Lake
<i>ee</i>	Albert Julius Seholm.....	<i>Verona, N. J.</i>	K Φ Lodge
<i>ee</i>	Zenzaburo Sekine.....	<i>Japan</i>	M. S. N. C.
<i>pm</i>	Frederick Truax Seward.....	<i>Goshen</i>	A Δ Φ House
<i>cl</i>	Walter Lawyer Shafer.....	<i>Schenectady</i>	1241 Albany St.
<i>ce</i>	George Donald Shannon.....	<i>East Orange, N. J.</i>	B Θ Π House
<i>pm</i>	Harold Bogardus Sherrill.....	<i>Albany</i>	Ψ T House
<i>pm</i>	Emanuel Simon.....	<i>Albany</i>	N. S. N. C.
<i>ac</i>	Edward Vincent Simpson.....	<i>Albany</i>	Δ X A House
<i>ee</i>	James Reuben Simpson.....	<i>Liberty</i>	N. S. S. C.
<i>ee</i>	Russell Stanton Simpson.....	<i>Clarksburg, W. Va.</i>	A Δ Φ House
<i>pm</i>	James Harold Singleton.....	<i>Glens Falls</i>	Φ Σ K House
<i>ac</i>	William Bennett Skane.....	<i>Glens Falls</i>	X Ψ Lodge
<i>ee</i>	Charles Augustus Skillman, Jr..	<i>Cranford, N. J.</i>	Φ Γ Δ House
<i>pm</i>	George Donald Skinner.....	<i>Schenectady</i>	25 Keyes Av.
<i>ce</i>	Hugh Joseph Slattery, Jr.....	<i>Albany</i>	Φ Δ Θ House
<i>ac</i>	Michael Slovak.....	<i>Schenectady</i>	136 So. Ferry St.
<i>pm</i>	Edward Small, Jr.....	<i>Schenectady</i>	30 Wabash Av.
<i>ac</i>	Cecil Clifford Smead.....	<i>Lake Luzerne</i>	Old Gym. Dorm.
<i>ee</i>	George James Smith.....	<i>Valley Stream</i>	127 Avenue B
<i>ac</i>	James Arthur Smith.....	<i>Schenectady</i>	Δ Θ House
<i>ac</i>	John Worthington Sparks.....	<i>Schenectady</i>	320 Campbell Av.
<i>pm</i>	Alexander McKee Spear.....	<i>Hudson Falls</i>	7 Gillespie St.
<i>ce</i>	Alfred Stark.....	<i>Schenectady</i>	540 Chrisler Av.
<i>ee</i>	Francis Bowden Stevens.....	<i>Schenectady</i> ...	56 Washington Av.
<i>ac</i>	Francis LeRoy Stevens.....	<i>Schenectady</i>	372 Carrie St.
<i>ee</i>	George Albert Stubbs.....	<i>Lebanon, Ohio</i>	Φ Γ Δ House
<i>ac</i>	Merritt Austin Sutton.....	<i>Catskill</i>	M. S. N. C.
<i>ch</i>	Charles H. Swain.....	<i>Johnson City</i>	Ψ T House
<i>ce</i>	Jackson Hunter Taylor.....	<i>Newburgh</i>	Φ Γ Δ House
<i>ac</i>	Richard Carver Taylor.....	<i>Albany</i>	Φ Σ K House
<i>ce</i>	John Albert Tiedeman, Jr.....	<i>Schenectady</i>	511 Smith St.
<i>ac</i>	Barrett Lee Trask.....	<i>Unadilla</i>	103 Nott Ter.

<i>ce</i>	Gordon Philip Tripp.....	<i>East Orange, N. J.</i> ...	B Θ Π House
<i>ch</i>	Milton Agne Tryon.....	<i>Utica</i>	Φ Γ Δ House
<i>ce</i>	Floyd Edward Ulrich.....	<i>Schenectady</i>	1754 Union St.
<i>ac</i>	George Lippincott Van Curen..	<i>Fairport</i>	B Θ Π House
<i>ac</i>	Stuart Lansing Van Derzee....	<i>Albany</i>	Pyramid Club
<i>ee</i>	Mansel Dwight Van Horn.....	<i>Geneva</i>	S. S. S. C.
<i>ee</i>	S. Hollenbeck Van Wagenen...	<i>Arkville</i>	M. S. N. C.
<i>pm</i>	George DeFriest Van Wormer..	<i>Schenectady</i>	12 Linden St.
<i>ac</i>	Earl Burton Van Zandt.....	<i>Mechanicville</i>	M. S. N. C.
<i>ac</i>	Henry Veghte, Jr.....	<i>Johnstown</i>	Δ Φ House
<i>ac</i>	Anthony de Wolfe Veiller.....	<i>New York City</i>	A Δ Φ House
<i>ee</i>	Herbert Benedict Volk.....	<i>Schenectady</i>	K Φ Lodge
<i>ee</i>	Martin Joseph Wallace.....	<i>Schenectady</i>	802 Webster St.
<i>ee</i>	Nicholas Lester Wallace.....	<i>Fulton</i>	Φ Δ Θ House
<i>ee</i>	Randolph Albion Walling.....	<i>Fairport</i>	B Θ Π House
<i>pm</i>	Raymond Holmes Warner.....	<i>Lawyersville</i>	Old Gym Dorm.
<i>ee</i>	Walter Gilbert Waterman.....	<i>Ogdensburg</i>	Φ Σ K House
<i>ee</i>	Charles Newton Waterstreet	<i>Amsterdam</i> 40 Bayard St., Amsterdam	
<i>ac</i>	Leo Weinstein.....	<i>Troy</i>	K N House
<i>ac</i>	Archibald Cullings Wemple....	<i>Schenectady</i> 103 Van Vranken Av.	
<i>ac</i>	John Isaiah Wenker.....	<i>Monroe</i>	N. S. S. C.
<i>pm</i>	Elmer Wesley Wessell.....	<i>Schenectady</i>	215 Avenue A
<i>ce</i>	Russell Burroughs Weston.....	<i>Yonkers</i>	B Θ Π House
<i>ee</i>	Thomas Granville Wheeler....	<i>Kingston</i>	K A Lodge
<i>ee</i>	Desmond Ridgway Whipple....	<i>Auburn</i>	1550 State St.
<i>ac</i>	Harold Hegeman White.....	<i>Lakewood</i>	118 Waverly Pl.
<i>ee</i>	Ralph Gerald White.....	<i>Saratoga Springs</i> ...	Φ N Θ House
<i>ac</i>	W. Elliot Whitney.....	<i>Schenectady</i> ..	219 Glenwood Blvd.
<i>ac</i>	Howard James Wilson.....	<i>Rochester, Vt.</i>	Pyramid Club
<i>ee</i>	Samuel Holden Wood.....	<i>Batavia</i>	Σ Φ Pl.
<i>ac</i>	Tyler Duchardt Wood.....	<i>New York City</i>	Σ Φ Pl.
<i>ee</i>	Joseph Austin Wyatt, Jr.....	<i>Hempstead</i>	Φ Σ K House
<i>ee</i>	Nelson Reese Zeitler.....	<i>Menands</i>	Old Gym Dorm.
<i>pm</i>	William David Zelig.....	<i>Cohoes</i>	115 Nott Ter.
<i>pm</i>	William Arthur Zibro.....	<i>Troy</i>	1623 5th Av., Troy
<i>ce</i>	Rush Field Ziegenfelder, Jr....	<i>North Troy</i>	Δ Φ House

Students in Extension Courses

Charles W. Aussiker.....	<i>Fund E. E.</i>	341 Summit Ave.
W. L. Chellis.....	"	24 Union Ave.
William E. Eberle.....	"	842 Emmett St.
Mary E. Egan.....	"	Ballston Lake
Raymond H. Evans.....	"	103 Nott Terrace
Melvin L. Hood.....	"	200 Altamont Ave.
Harold L. McAtee.....	"	108 Glen Ave.
Raymond F. McAtee.....	"	544 Brandywine Ave.
William Naylor	"	1001 Delamont Ave.
I. Raphael	"	821 Hamilton St.
Nathan Sahr	"	517 Chrisler Ave.
Henry E. Schell.....	"	49 12th St.
Paul O. Thomae.....	"	427 Summit Ave.
H. Tornberg	"	159 Lafayette St.
Arthur E. Tucker.....	"	179 Nott Terrace
Jay H. Zeh.....	"	46 Baker Ave.
Arthur L. Van Epps.....	"	R. F. D. No. 2

Electrical Engineering, Fundamentals — 17

J. H. Austensen.....	<i>Adv. E. E.</i>	2 Poplar St.
Winton Bee	"	103 Nott Terrace
Ralph E. Bold.....	"	15 Henry St.
George M. Booth.....	"	10 Park Pl.
Bernard Dibner	"	215 Bradley St.
J. G. Halvac.....	"	40 Bradt St.
Harold G. Hilderbrand....	"	1550 Broadway
George R. Hill.....	"	1414 Union St.
Herman L. Hirt.....	"	26 Jay St.
Ernest A. Hoppe.....	"	128 Glenwood Blvd.
Basil W. Lee.....	"	34 N. Ferry St.
H. V. G. DuMont.....	"	R. F. D. No. 7
Juan Redondo.....	"	147 Riverside Ave.
Edward G. Semon.....	"	721 Chrisler Ave.

Fred Q. Shaffer.....	<i>Adv. E. E.</i>	415 Hulett St.
J. Shaw	"	16 Washington Ave.
R. Bradley Smith.....	"	P. O. Box 692
J. H. Spencer.....	"	35 Springfield Ave.
Earl Terwilliger.....	"	501 Avenue B
C. P. Volk.....	"	16 Washington Ave.
Thomas C. Wilson.....	"	104 Foster Ave.

Electrical Engineering, Advanced — 21

Mrs. E. F. N. Alexanderson	<i>Elem. French</i>	8 Adams Rd.
Miss Bessie Charakoff....	"	327 Seward Pl.
T. B. Cham.....	"	1 Union St.
Miss Florence L. Cohen...	"	1114 Union St.
John Cyril Collins.....	"	620 State St.
Miss Virginia G. Davis....	"	216 Parkwood Blvd.
Miss Adele Fortin.....	"	40 Glenwood Blvd.
Mrs. Charlotte M. Helm...	"	State & Mynderse Sts.
Miss Dorothea R. Jones...	"	238 Parkwood Blvd.
Miss Lillian I. Lasher....	"	210 Catherine St.
Mrs. Esther G. Miller.....	"	4 Ardsley Rd.
Mrs. N. A. Pashayan.....	"	611 Union St.
Miss Cornelia Rea.....	"	960 Albany St.
Miss Catherine E. Rea....	"	960 Albany St.
Miss Elizabeth D. Spaulding	"	100 Phoenix Ave.
Miss Margaret Sterling...	"	116 University Pl.
Mrs. S. L. Whitestone....	"	7 Douglas Rd.

Elementary French — 17

V. J. Brain.....	<i>Psychology</i>	24 Wendell Ave.
E. H. Beck.....	"	221 Fourth Ave.
George M. Booth.....	"	10 Park Pl.
Alfred Carlson	"	Elnora
Li Chen	"	514 Union St.
Robert F. Cummings.....	"	969 Albany St.
Miss Helen E. Davis.....	"	216 Parkwood Blvd.
J. Randolph Flecke.....	"	21 N. Ferry St.
Mrs. Edward M. Hewlett..	"	70 Union St.

Ernest A. Hoppe.....	<i>Psychology</i>	128 Glenwood Blvd.
Robert W. Larson.....	" ..	221 Seward Pl.
Miss Sylvia A. Melofsky...	"	514 Summit Ave.
Victor J. Oshel.....	"	210 Second Ave.
John T. Powers.....	"	146½ Front St.
Earl R. Seymour.....	"	1024 Albany St.
Miss Elizabeth D. Spaulding.	"	100 Phoenix Ave.
Harold E. Strang.....	"	710 South Ave.
LeRoy H. Van Buren.....	" ..	221 Van Vranken Ave.
Chon Chih Wang.....	"	117 Nott Terrace
Samuel Warshaw.....	"	104 Jay St.
Lawrence E. Weber.....	"	107 Seward Pl.
Everett S. Weed.....	"	707 South Ave.

Psychology — 22

O. Barnes	<i>Public Speaking</i>	157 Lafayette St.
Brewster S. Beach.....	"	29 Waverly Pl.
E. G. Bern.....	"	605 Mohawk Ave.
George M. Booth.....	"	10 Park Pl.
V. J. Brain.....	"	119 Avenue A
Rollin C. Fox.....	"	119 Avenue A
Walter L. Hand.....	"	35 Turner Ave.
E. O. Hoffman.....	"	56 Glenwood Ave.
Melvin L. Hood.....	"	200 Altamont Ave.
Basil W. Lee.....	"	34 N. Ferry St.
John Mitchell	" ..	108 Woodland Ave.
Miss Dorothy R. Neisuler.	"	411 Hulett St.
H. L. Perdue.....	"	10 Hawk St.
Charles W. Shaw.....	" ..	117 Harrison Ave.
R. D. Teele.....	"	711 Becker St.
Walter F. Young.....	"	141 Furman St.

Public Speaking — 16

Summary of Students, Union College

Graduate Students (in residence).....	40
Seniors.	106
Juniors.	121
Sophomores.	159
Freshmen.	283
	709
Extension Course Students	93
Total.	802

STUDENTS OF THE ALBANY MEDICAL COLLEGE

Fourth Year Class

Clarence F. Ackerknecht, A. B.....	Johnstown
Lucy Elizabeth Bourn, Ph. B.....	Providence, R. I.
John Quinn Donahue	Cohoes
Samuel William Ebenfeld.....	Newark, N. J.
David Henry Faulknor.....	Amsterdam
Ruth Gilbert, A.B., A. M.....	Albany
Raymond Ignace Gosselin	Troy
Edwin Gordon MacKenzie, A. B.....	Millbrook
Nitya Pauvedya	Bangkok, Siam
Ferdinand Louis Perrone.....	Sheepshead Bay
Louis Simon Poskanzer.....	Albany
Jasper Lewis Robertson.....	Hoosick Falls
Li Sribyatta	Bangkok, Siam
Henry Lewis Turkel.....	Kiamesha

Fourth Year Class — 14

Third Year Class

Philip Daly Allen	Schuyler Lake
Jean Mason Archibold, A. B.....	Cohoes
George Joseph Bookstein.....	Albany
Katherine Grace Brockman.....	Albany
James William Bucci.....	Albany
John Francis Connor.....	Green Island
Kenneth Eugene Crounse, A. B.....	Albany
Elton R. Dickson, B. S.....	Hoosick Falls
Earl John Dorwalt, A. B.....	Albany
Grant Frederick Glassbrook.....	Corinth
Charles Edward Martin.....	Schenectady
Douw Schuyler Meyers.....	Randall
Francis Mulcare	Schenectady
Frederick John Pratt.....	Albany
Isaac Shapiro	Schuylerville
Francis Leslie Sullivan, B. S.....	Middleburg

Harold Field Teed.....	East Masonville
Francis Alexander Teta.....	Brooklyn
David Henry Vrooman	Randall
Third Year Class — 19	

Second Year Class

John Kenneth Deegan	Newburgh
Francis William Dodge	Albany
Philip Louis Forster	Albany
Eugene Frederick Galvin	Cadyville
Herbert Corle Hageman	Claverack
Joseph L. Holohan	Waterford
Charles Robert Holt.....	Westport
Henry Dunham Hunt	Albany
Francis J. Hyland	Gloversville
Stanley Pritchard Jones	Schenectady
Daniel Earl Kavanaugh.....	Coñoes
Emerson Crosby Kelly, A. B.....	Fleischmanns
Franklyn L. Kessler	Peekskill
Stuart Forbes MacMillan, B. S.....	Schenectady
Walter Charles Mott, B. S.....	Schenectady
Leal Luther Perry	Rushville
Harry E. Reynolds	Garfield
D. Edward Rowan	Stapleton
Willard Hamilton Sweet, Jr.....	Petersburg
Arthur J. Townley, B. S.....	Ballston Lake
Kenneth C. Waddell, B. S. in C. E.....	Sao Paulo, Brazil
Second Year Class — 21	

First Year Class

John Thomas Anderson.....	Schenectady
Harold Bellin	Albany
James Boozer, A. B.	Mt. Kisco
George A. Burgin.....	Albany
John Joseph Curley.....	Troy
Harold Lester Davis.....	Leonardsville
John De Rosa, A. B.....	Paterson, N. J.

Martin Francis Geruso.....	Mechanicville
Joseph P. Harding.....	Hudson Falls
James Francis Hickey, A. B.....	Ithaca
Vincent P. Kelly, B. S.....	Albany
Abraham Arthur Klein.....	Hartford, Conn.
John J. Klein, A. B., A. M.....	Brooklyn
Richard James Lang.....	Albany
Lawrence V. Lindroth, B. S.....	Brooklyn
Francis Anthony Mastrianni.....	Mechanicville
Ralph Francis Nevin.....	Holyoke, Mass.
Joseph J. Pezzulo.....	Glens Falls
George F. Reed, A. B.....	Cohoes
John Henry Ring.....	Troy
John Frederick Rogers.....	Poughkeepsie
Kalmon Rosenblatt	Albany
Donald Kendig Schwartz.....	Poughkeepsie
John Scially	Jersey City, N. J.
James Edison Smith.....	Schenectady
Lawrence R. Smith.....	Richfield Springs
Martin F. Stein.....	Grantwood, N. J.
William Henry Tregurtha, B. S.....	Schenectady
Benno J. Troidle, B. S.....	Albany
Francis J. Vaccaro.....	Pittsfield, Mass.
Philip Stanley Van Orden.....	Spring Valley
George C. Von Borstel.....	Wappingers Falls
Stanley George Warner, Ph. B.....	Peterboro, N. H.
Emanuel Waskowitz.....	New York City

First Year Class — 34

Summary of Students, Albany Medical College

Fourth Year Class.....	14
Third Year Class.....	19
Second Year Class.....	21
First Year Class.....	34
Total.	88

STUDENTS OF ALBANY LAW SCHOOL

Third Year Class

Gladys J. Ackart.....	Albany
Miriam J. Albee.....	Albany
James J. Armstrong.....	Albany
Albert Averbach	Schenectady
Michael J. Bartholomew.....	Troy
George Robert Bartlett.....	Albany
James W. Bennison.....	Frankfort
Francis Bergan	Albany
William P. Boyle.....	Jamestown
John A. Brady.....	New York City
Edward J. Breslin.....	Scotia
C. Edward Brown.....	Shortsville
Floyd S. Brownell.....	Medusa
Francis J. Burns.....	Rensselaer
Douglas A. Calkins	Rensselaer
Milton A. Chase.....	Rochester
Ruth K. Child, A. B.....	Albany
Elmer F. Clapp.....	Bloomfield, N. J.
Thomas R. Connery.....	Cohoes
Samuel J. Danno.....	Rochester
Joseph J. D'Aprile.....	Geneseo
Andrew C. Davidson.....	Cooperstown
Reginald H. Davies.....	Beacon
Matthew E. Devitt.....	Montgomery
Edward G. Dillon.....	Watervliet
James L. Doyle.....	Amsterdam
George Dwore	Schenectady
Harriet R. Edic.....	Utica
Charles J. Eignor.....	Albany
Abraham P. Feen.....	Burlington, Vt.
DeForest E. Fox, A. B.....	Elmira
Frederick T. Freeman.....	Albany
Joseph F. A. Gallagher.....	Albany
Kenneth W. Glines	Granville
John O. Grady.....	Waterford

Edward J. Grogan, Jr.....	Albany
Clarence Gunderman	Bath
William Heinecke, Jr.....	Albany
William H. Hiney.....	Albany
Martin J. Howard.....	Albany
Russell G. Hunt.....	Albany
Meyer A. Jeneroff.....	Albany
Abbott J. Jones.....	Troy
Smith Johnson	Camden
Stanley B. Johnson.....	Middletown
William L. Keller.....	Lake Luzerne
Alfred D. Kelly.....	Watervliet
Arthur L. Kraut.....	Schenectady
Jacob G. Krouner.....	Albany
Francis J. Lawler.....	Rome
Earle W. Lawrence.....	Troy
Melvorn Lovell.....	Elmira
Stanley M. Miller.....	Utica
Joseph P. Molinari	Oneonta
Daniel B. Murphy.....	Cohoes
William T. Potter.....	Schenectady
Richard W. Preston.....	Watervliet
Michael Rogers.....	LeRoy
Francis T. Ropiecki.....	Utica
John D. Saunders.....	Potter
N. Bernard Silberg.....	Albany
P. L. Shangraw.....	Richford, Vt.
Joseph W. Skoda.....	Schenectady
Emmens E. Stebner.....	Hudson
Francis J. Stewart.....	Ogdensburg
Edmund C. Sullivan.....	Albany
Luis H. Tirado.....	San Juan, P. R.
Milo I. Tomanovich.....	Rochester
Cecil B. Tooker.....	Riverhead
J. Guy Torbert.....	Ithaca
Jerome B. Tyne.....	Binghamton
James R. Waring.....	Rochester
John T. White, Jr.....	Saratoga Springs

John J. Woods.....	Troy
Leland R. Yost.....	Bath
William S. Zielinski.....	Rochester
Third Year Class — 76	

Second Year Class

Felix J. Aulisi.....	Amsterdam
Robert S. Badger.....	Binghamton
Donald H. Balch.....	Scotia
Malcoln G. Bibby	Albany
Arthur H. Blackburn, B. S.....	Danbury, Conn.
Gerald W. Bouck.....	Albany
Albert K. Braim.....	Greenfield
Peter J. Carroll.....	Pittsfield, Mass.
Raymond M. Castilan.....	Clyde
Francis W. A. Chrystal.....	Newburgh
Russell B. Cline.....	Rochester
Mary D. Connell.....	Rensselaer
A. George Coan.....	Watertown
Daniel Emmett Conway, A. B.....	Troy
Peter D. Demary.....	Watkins
Joseph E. Deutschbein.....	Albany
Franklyn A. Dobbs.....	Albany
M. Michel Dobris.....	Albany
William F. Donohue.....	Troy
Harold V. A. Drumm.....	Niverville
Samuel Englebardt	Schenectady
Julian B. Erway.....	McGraw
Joseph Feldman	Albany
Jeanette Felson	Schenectady
Joseph L. Fitzgerald.....	Troy
Charles C. Flaesch, Jr.....	Unadilla
Thomas H. Fogarty	Binghamton
George W. Foy.....	Saranac Lake
Donald S. Fowler.....	Jamestown
W. Irving Francis.....	Syracuse
Joseph P. Frushone.....	Silver Creek

Roy Fuller.....	Sackets Harbor
Clarence F. Giles.....	Watertown
Alexander Grasso	Schenectady
Augustive E. Graubart.....	Schenectady
Edwin L. Greene.....	Kingston
Charles Grosberg	Troy
Thomas R. Hadaway.....	Montgomery
Peter H. Harp.....	New Paltz
Gordon B. Harris	Rochester
Aaron Hendler	Hudson
Aloysius J. Hogan, A. B.....	Albany
Joseph F. Iacovino.....	Auburn
James A. Joblin.....	Schenectady
Edward S. Kampf.....	Albany
Walter H. Keenholts.....	Rensselaer
Vernon J. Kelder.....	Napanoch
Patrick Keniry	Mechanicville
Harry E. Kesler.....	Cortland
McDonald King, A. B.....	Schenectady
Leon Klein	Albany
Leo Krause, B. C. S.....	Schenectady
Kathryn M. Lasch.....	Albany
Fulmer Long	Corning
John H. MacGregor.....	Saratoga Springs
Maurice McCann	Penn Yan
Lawrence J. McGovern.....	Schenectady
Frank G. McLean.....	Chenango Forks
Armand A. Mancuso.....	Schenectady
Clement G. Martin, Jr.....	Ballston Spa
Earl W. Nicklas.....	Schenectady
George J. Nier.....	Rochester
Joseph A. Niles.....	Troy
Alan L. Oastler.....	Geneva
William D. O'Brien.....	Albany
F. Claude O'Connell.....	Plattsburg
James P. O'Connell.....	Plattsburgh
Ralph A. Peters, B. S.....	Schenectady
Clarence Boyd Plantz, B. S.....	Amsterdam

Warren T. Ratcliff.....	Albany
Ruth R. Reedy.....	Albany
Harry A. Reoux, B. S.....	Warrensburgh
John M. Reynolds, B. S.....	Fulton
Joseph Rickards	Albany
Ernest B. Rieck.....	Albany
David Robinson	Pittsfield, Mass.
Wallace N. Robinson, Jr.....	Kansas City, Mo.
Ruth Rosenholtz	Troy
Solomon Rubenstein	Albany
Benjamin J. Segel.....	Schenectady
Alec Silverman	Glens Falls
Clarence G. Simmons.....	Troy
Morris Simon	Troy
John W. Sisson	Alton
E. Hamilton Smith.....	Schenectady
Ralph P. Smith.....	Hudson Falls
Claron G. Soule.....	Manchester, Vt.
Abraham Steinberg	Schenectady
Homer J. Townsend.....	Greenfield
Frank A. Vidulich.	Frankfort
Arthur H. Vinett.....	Troy
Joseph E. Walsh.....	Troy
Carl Weiss	Schenectady
Louis O. Welt.....	Ogdensburg
Lealand J. Winn.....	New Baltimore

Second Year Class — 95

First Year Class

Hannah S. Abraham, A. B.....	Albany
J. Allan Ballman.....	Middletown
Edward W. Barrett.....	Saratoga Springs
Walter B. Batchelor.....	Oswego
Frank Bearup	Albany
Arthur N. Blair.....	Albany
Kathryn M. Breen.....	Waterford
Ephraim Bress	Troy

Warren Joseph Broderick.....	Troy
Reginald A. Brooks.....	Cohoes
Frank Paul Calabrese.....	Philadelphia, Pa.
Joseph L. Carrigg, A. B.....	Susquehanna, Pa.
Charles H. Carter, Jr.....	Waterford
Joseph J. Casey.....	Albany
Daniel O. Chambers.....	Ellenburgh Depot
Ernest A. R. Cohen.....	Waterbury, Conn.
Margery C. Collins.....	Chaumont
Richard B. Conley.....	Little Falls
Thomas F. Croake, Jr.....	Saranac Lake
Thomas J. Cullen.....	Troy
Charles C. Curlette.....	Monticello
William L. Cuthbert.....	Troy
Guy R. deCordova.....	Poughkeepsie
John T. DeGraff, B. S.....	Albany
Victor Andrew DeRosa.....	Utica
Alphonse DiMezza	Amsterdam
Edward Thomas Doyle.....	Albany
John F. Doyle.....	Mechanicville
Margaret Duncan	Coeymans
Joseph A. Early.....	Schenectady
Charlotte Eckstein	Hudson
Chester Eckstein	Hudson
Kenneth S. Ellsworth.....	Lake George
Harvey R. Esler.....	Theresa
James L. Fitzgerald.....	Newburgh
Louis E. Follett.....	Saratoga Springs
Howard W. Franke.....	Rochester
Morace Freedman	Utica
Reuben Goldman	Rochester
Richard T. Graham.....	Schenectady
Theobold M. Guerin.....	Troy
Charles J. Guzzetta.....	Mt. Morris
Florence Haberman	Albany
Robert G. Hanlon.....	Cohoes
Edward D. Harper.....	Potsdam
William W. Harris.....	Brandon, Vt.

Odell S. Hathaway, Jr.....	Middletown
George Helprin	Saratoga Springs
Eugene Hess	Watervliet
James Hoffman	Troy
Harold Houghtaling	Rochester
James Hyer	Athens
Emanuel Jacobson	Richmond Hill
Frederick C. Jensen.....	Geneseo
Eleanor Johnson	Albany
Robert Johnston, Jr.....	Newburgh
Llewelyn Jones	Granville
Edmund Kane	Rochester
James E. Keeler.....	Cohoes
Edward John Kelly.....	Saratoga Springs
Reuben H. Kohn.....	Albany
Ralph H. Kurlbaum.....	Fonda
Harold R. Lair.....	Pattersonville
Floyd M. Lawton.....	Beecher Falls, Vt.
Howard David Lee.....	Albany
Lloyd R. LeFevre.....	Rosendale
Ralph Leonard	Albany
David Levine	Albany
Percy Lieberman	Rensselaer
Richard Cullen MacLean.....	Schenectady
Daniel J. McAvoy.....	Binghamton
Ritchie Q. V. McGuire, A. B.....	Albany
J. Howard McIsaac.....	Troy
Martin E. McNulty.....	Green Island
Gerald J. Magee.....	Troy
John J. Mahoney.....	Rochester
M. Francis Malone.....	Utica
Henry Mank	Rhinecliff
Joseph Margolius	Albany
Edward Francis Meany, Jr.....	Albany
Charles Meehan	Troy
Paul R. Meskil	Highland Falls
William F. Moehrke.....	Poughkeepsie
Thomas J. Mohan.....	Troy

Howard J. Morin.....	Albany
Donald N. Morris.....	Rochester
Frank Morris	Rochester
William E. Morris.....	Waterford
William T. Dee Morrissey.....	Cohoes
Harold J. Murphy.....	Albany
Rudolph F. Napodano.....	Rochester
Francis T. Nolan.....	Albany
Joseph Edward North.....	Vestal
Robert Louis Novark.....	Albany
John K. O'Connor, A. B.....	Troy
Ralph W. O'Hear.....	Montgomery Center, Vt.
John James O'Keefe.....	Lenox, Mass.
Philip A. Oliva.....	Garfield, N. J.
Coleman Pattison.....	Indianapolis, Ind.
Henry B. Peterson.....	Laurens
Frederick A. Phillips, Jr.....	Troy
Werner H. E. Pigors.....	Albany
Daniel Harry Pratt.....	Cambridge
Harold F. Pritchard.....	Albany
Joseph F. Purcell.....	Troy
Louis J. Rinaldi, B. S.....	Schenectady
Kenneth B. Rose.....	Sloatsburg
Andrew W. Ryan.....	Plattsburgh
Charles M. Salerno.....	Clyde
Harry Morris Salzberg.....	Delhi
John Byron Senecal.....	Watertown
George G. Shevlin.....	Albany
Alfred L. Simon.....	Ballston Spa
Margaret Smith	Fort Plain
Milburn D. Smith.....	Fort Plain
W. V. Spear, A. B.....	Lodi
Philip S. Staats.....	Rensselaer
George W. Stedman, Jr., A. B.....	Albany
Bebe Stone	Brooklyn
John J. Stringfellow.....	Schenectady
Eugene F. Sullivan, B. S.....	Fulton
John J. Sweeney.....	Troy

Edwin A. Tennant, Jr.....	Rensselaer
Ralph B. Turner.....	Glens Falls
Edwin F. Verreau.....	Marathon
Edward E. Weber.....	Schenectady
Harry O. Weinberg.....	Troy
Daniel W. Wern.....	Middletown
John D. Whittaker.....	Catskill
Roger O. Williams.....	Albany
Forrest L. Willis.....	Albany
David Wright	Washingtonville
Edward W. Yarter.....	Cohoes
Frederick A. Young.....	Oneida
First Year Class — 134	

Summary of Students, Albany Law School

Third Year Class	76
Second Year Class	95
First Year Class	134
Total.	305

STUDENTS OF THE ALBANY COLLEGE OF PHARMACY

Third Year (Ph. C.) Class

Ezra E. Guernsey.....	Herkimer
Umbert C. Guerra.....	Schenectady
Henry G. Klein.....	Albany
Thomas A. Snyder.....	Hudson

Third Year Class — 4

Second Year Class

Michael Auerbach	Brooklyn
Byron H. Barnhart.....	Sodus
Emanuele Bondi	Rochester
Dewey Bonner	Lyons Falls
Paul J. Brodeur.....	Rensselaer
Charles W. Brooks.....	Minoa
Paul A. Constantino.....	Mt. Morris
Nicholas J. Covatta	Troy
Peter Danzilo	Brooklyn
Burdette G. Dewell, Jr.....	Catskill
James P. Drew.....	Troy
Francis J. Dunn, Jr.....	Ballston Spa
Ely Eber	Rochester
Douglas D. Foody.....	Fultonville
Albert J. Freeman.....	Rome
Gustave L. Freund.....	New York City
Charles W. Fuhrer.....	Roscoe
Rodney B. Gallagher.....	Tannersville
Clyde W. Graves.....	Clayton
Clarence E. Hayes.....	Potsdam
James E. Hill.....	Monticello
George O. Holmes.	Salem
William S. Inglee.....	Whitehall
Bernice E. Johnston.....	Sheffield, Pa.
Harry O. Kantrowitz.....	Fall River, Mass.
Rezeal T. Kantz.....	Elmira
Thomas J. Kelly.....	Utica

William E. Kenny.....	Auburn
Raymond Klebes	West Cossackie
Emil G. Koretz.....	Albany
Louis P. Kotok.....	Brooklyn
Homer M. Lasher.....	North Troy
Joseph B. Laurence.....	Gloversville
Clarence Lawler	Pulaski
Claud Lawler	Pulaski
Zdzislaw J. Lesiakowski.....	Amsterdam
Ellis H. Liberman.....	Syracuse
Thomas C. Lodge.....	New York City
Francis H. Lonergan.....	Green Island
Harry J. McClellan.....	Oneonta
Robert J. McLane.....	Rexford
Harold J. Maxwell.....	Schenectady
Alexander L. Morey.....	Amsterdam
Harold J. Normile.....	Binghamton
Harry F. O'Brien.....	Utica
James J. O'Leary.....	Binghamton
Donald B. Olive.....	West Burlington
Edward M. O'Malley.....	Saratoga Springs
Margaret J. Ostrander.....	Duanesburg
Anthony Pacilio	Utica
Arthur S. Palmer.....	Oneonta
Earl C. Parker.....	Mexico
L. Austin Peach.....	Gloversville
Roy C. Rasmuson.....	Albany
Jack Rheingold	East Schodack
Kenneth J. Roseboom.....	Albany
Frances K. Rosensweig	Albany
Carl H. Ruhl.....	Albany
C. Howard Russell.....	Warrensburg
Francis G. Scanlon.....	Norwich
Martin L. Scharbach.....	Boonville
Alfred W. Smith.....	North Troy
George B. Smith.....	Plattsburg
Daniel J. Spadaro.....	Albany
David Strauss	Albany

Edwin W. Taylor.....	Saranac Lake
Joseph V. Walsh.....	Glenham
Leslie B. Warren.....	Utica
Lazarus Weinstein	Syracuse
Joseph F. Welch.....	Binghamton
Stuart K. Wood.....	East Greenbush

Second Year Class — 71

First Year Class

John Archibold, 2nd.....	Cohoes
Samuel Avnet	Schenectady
Gertrude W. Backer.....	North Troy
Robert W. Baker.....	Ilion
Allan L. Barnum.....	North Troy
Ross F. Barone.....	LeRoy
George F. Beach.....	Herkimer
Samuel S. Block.....	New York City
John M. Brackin.....	Pittsfield, Mass.
Alton B. P. Breithaupt.....	Utica
Frederick C. Breithaupt.....	Utica
Hugh Brown	Shushan
Richard T. Byrnes.....	Ilion
Paul A. Cadicamo.....	Brooklyn
Dominic R. Caliendo.....	Brooklyn
John L. Callahan.....	Frankfort
Charles R. Cammer.....	Catskill
Dominick F. Candido.....	Albany
Kathleen M. Carey.....	Cohoes
Samuel Carlat	Brooklyn
William B. Carpenter.....	Lyons
Frederick L. Cazer.....	Newburgh
Edward Cohen	Albany
Harry E. Cohen.....	Albany
Leo D. Connor.....	Amsterdam
Livingston C. Coulter.....	Salem
Omer A. Couture.....	Watervliet
Morris Dauer	New York City

Leon B. Davey.....	Syracuse
Henry R. Decker.....	Hunter
Otis T. Decker.....	Hudson
Chester A. Dennin.....	Watervliet
Anna C. Dever.....	Glens Falls
Charles D. Dodson.....	Friendship
James J. Donovan.....	Glens Falls
James C. Doran.....	Schuylerville
Howard J. Doughty.....	Liberty
Mary A. Eagle.....	Troy
Raymond G. Ehrmann.....	Herkimer
Samuel G. Engel.....	Brooklyn
Carmelina Fallisi	Hartford, Conn.
Wilfred W. Farrant.....	Gloversville
Joseph T. Foley.....	Seymour, Conn.
John E. Fox.....	Homer
James V. Franco.....	Utica
Cordon Frank	Honeoye Falls
Arthur L. Gates.....	Mechanicville
Joseph Genovese	Elmhurst
Anna Goldberg	Brooklyn
Hyman Goldberg	New York City
Raymond W. Graper.....	Schenectady
Clyde G. Gray.....	Richville
Edna M. Gray.....	Watervliet
Roy F. Green.....	L.....Newburgh
Samuel Greenberg	New York City
Carlos H. Grundhoeffer.....	Scotia
Jacob Hacken	New York City
Edward F. Hanlon.....	Cazenovia
Leo W. Harrison.....	Rutland, Vt.
Kenneth P. Hornbeck.....	Ellenville
Herbert Horowitz	New York City
Purner T. Houle.....	Cohoes
Frances Howe	Albany
Samuel Israel	Brooklyn
Alaric J. Jackson.....	Waterville
Walter A. Janaro.....	New York City

John M. Jones.....	Schenectady
Karl M. Kau.....	Syracuse
Frank Karninsky	Brooklyn
Charles R. Keane.....	New Haven, Conn.
Claude B. Kenyon.....	Waterville
Morris Kessler	New York City
Gustav J. Klein.....	Harrison
John A. Lang.....	Ogdensburg
Samuel E. Legault.....	Ogdensburg
Boris M. Liebmann.....	New York City
John H. Long.....	Oswego
Mason W. Loomis.. ..	Utica
Jiacomo Luizzi	Utica
Harold J. Lynn.....	White Lake
Kenneth B. Lyon.....	Oneonta
Charles J. Manwaring.....	Pulaski
Daniel J. Marine.....	Frankfort
Harold S. J. McBride.....	Mechanicville
Paul L. McCarty.....	Schuylerville
Louis Miller	Kingston
Joshua Miransky	Brooklyn
Richard V. Moody.....	Moira
Joseph F. Morgan.....	Middletown
Nat L. Morrison.....	Brooklyn
Daniel J. Morrone.....	Watervliet
Sidney M. Moses.....	Newburgh
Robert C. Mulvey.....	Ilion
William A. Mulvey.....	Ilion
Edmund W. Murphy.....	Herkimer
Gladys T. Murphy.....	Watervliet
John R. Murphy.....	Saranac Lake
George H. Murray.....	Cohoes
Raymond L. Myrick.....	Schenectady
Morris Nacht	New York City
Joseph Nadleman	Brooklyn
Joseph A. Neary.....	Watervliet
Martin J. Nevins.....	Oneonta
Edwin C. Pendleton.....	Norwich

Leslie J. Pierce.....	Oneonta
Thomas W. Pitcher.....	Cornwall
Louis Polatschek	Schenectady
Erwin C. Proper.....	Saratoga Springs
Abraham Rapp	Schenectady
Lyle L. Rasbach.....	Herkimer
Douglas L. Rehlaender.....	Albany
Joseph J. Riedy, Jr.....	Albany
Pasquale A. Rizzo.....	Troy
Elie I. Roney.....	New York City
Samuel Rosenthal	Kingston
Gustave Rothschild	Syracuse
Joseph G. Ruby.....	Rome
Libbie Sacharoff	Schenectady
Milton C. Scott.....	Middletown
John F. Shea.....	Cohoes
Thomas A. Shanahan.....	New York City
Inis H. Sherwood.....	Newburgh
Edna B. Shields.....	Albany
Thomas S. Shott.....	East Hampton
Benjamin Silberg	Albany
Isidore Silbergleit	New York City
Edwin B. Simonson.....	Buffalo
Harold J. Smith.....	Oneonta
Paul P. Somerville.....	Albany
Pauline F. Stafford.....	Essex
Joseph H. Stapleton.....	Saratoga Springs
Benny Tager	Tupper Lake
Newell S. Tarbell.....	Norwich
Sister Mary Thomas McManaway.....	Albany
George R. Turner.....	Scotia
Abel R. Vibbard.....	Johnstown
Leonard J. Vining.....	Maplecrest
Morris H. Weinzwieg.....	Brooklyn
John F. Wilcox.....	Lacona
Raymond C. Williams.....	Utica
William A. Williams.....	Fulton

Floyd W. Wilson.....	Amsterdam
Jacon Zamost	East Hartford, Conn.
Vito J. Zinnanti.....	New York City
First Year Class — 144	

Summary of Students, Albany College of Pharmacy

Third Year Class	4
Second Year Class	71
First Year Class	144
Total.	219

SUMMARY OF STUDENTS, UNION UNIVERSITY

Union College	802
Albany Medical College	88
Albany Law School	305
Albany College of Pharmacy	219
Total.	1414

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